

ETRUSCAN AMPHORAE AND TRADE IN THE WESTERN MEDITERRANEAN,
800-400 B.C.E.

A Thesis

by

JOSHUA ANDREW DANIEL

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2009

Major Subject: Anthropology

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ABSTRACT

Etruscan Amphorae and Trade in the Western Mediterranean, 800-400 B.C.E.

(May 2009)

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The Etruscans dominated central Italy from the eighth to the fifth centuries B.C.E. Within this time, they maintained both direct and indirect trade networks with other cultures. There are two categories of evidence that demonstrate the nature of Etruscan relationships with the other inhabitants of the Mediterranean basin: ancient written sources and archaeological data. The objective of this thesis is to produce a new study on the nature of Etruscan trade, commerce, and seafaring from the eighth to the fifth centuries B.C.E. based on recent underwater discoveries that have not yet been evaluated against existing theories.

The ancient written sources for Etruscan seafaring can be divided into two distinct thematic groups. These include Etruscan piracy and commerce. The archaeological evidence for Etruscan commodities consists of eleven shipwrecks found off the coasts of France and Italy, the excavation of three ports on the western coast of Italy, tomb paintings, and clay ship models. Materials from the shipwrecks include amphorae, or two-handled clay storage jars, and associated pottery, which together comprise the basis of this study. In a final section, previous research on the subject of

Etruscan seafaring, commerce, and piracy will be re-evaluated in light of recent discoveries.

DEDICATION

To my wife Shanna.

Amari meā semper.

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I owe an incredible debt to Dr. Deborah Carlson for convincing me to work on this subject, for giving me guidance and direction, and allowing me so many opportunities both at home and abroad.

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1. INTRODUCTION

The Etruscans dominated central Italy from the eighth to the fifth centuries B.C.E. Within this time, they maintained both direct and indirect trade networks with other civilizations. There are two categories of evidence that demonstrate the nature of Etruscan relationships with the other inhabitants of the Mediterranean basin: ancient written sources and archaeological data. By evaluating these two groups independently, and then together, it is possible to better understand the general nature of foreign contacts.

The objective of this thesis is to produce a study of Etruscan trade, commerce, and seafaring from the eighth century to the fifth century B.C.E. based on recent underwater discoveries that have yet to be evaluated against existing theories of Etruscan commerce. While the subject of trade and commerce has been addressed previously by various modern authors,¹ recent discoveries may modify modern views on Etruscan seafaring and foreign relations. These shipwrecks, while not necessarily direct evidence of Etruscan ships or seafaring, are indicative of the nature and scope of the Etruscans' commerce between Etruria and the Mediterranean.

The first corpus of material under consideration consists of the ancient written sources. These include Greek and Roman authors dating from the seventh century B.C.E. to the tenth century C.E. These authors represent a wide range of different genres including history (Herodotus), poetry (the Homeric Hymns), and legal defenses

This thesis follows the style of the *American Journal of Archaeology*.

¹ Bernardini and Camporeale 2004; Bonanno 1988; Cristofani 1983; Gras 1985; Long, Pomey, Sourrisseau 2002; Pettena 2002; Py and Py 1974; Shuey 1982.

(Cicero). In this section, the sources are organized topically and further subdivided chronologically, highlighting two major and recurrent themes: (a) Etruscan piracy and seafaring, and (b) trade and commerce. The Etruscans were notorious in Greek and Roman literature for their cruelty to prisoners of war and their penchant for raiding Greek colonies.² The literary stereotype of the Etruscan pirate, which persisted for centuries, can now be re-evaluated in light of more recent evidence for Etruscan commerce. Trade and commerce is rarely mentioned in ancient literature, making a discussion of Etruscan commerce based solely on the ancient written sources problematic. However, the sources play an important role in this study because they include discussions on exports in natural resources, such as raw metals, and finished goods, such as pottery and lamp stands.³ This subject has received much attention in current scholarship,⁴ owing in part to the curious lack of evidence in ancient literature.

The archaeological evidence under consideration in this thesis comes from ten Archaic shipwrecks located off the southern coast of France, such as the Cap d'Antibes (550-560 B.C.E.),⁵ Bon Porte I (540-510 B.C.E.),⁶ and Grand Ribaud F (515-470 B.C.E.) wrecks.⁷ Others have been discovered off the coast of Italy, such as the well-known shipwreck excavated near the island of Giglio (circa 600 B.C.E.).⁸ A shipwreck

² c.f. Strabo *Geog.* 6.2.2-10; Diod. Sic. *Bibl.* 5.9; Paus. *Guide to Greece* 10.2.3, 10.16.7; Arist. *Plt.* 3.5.10-11; Dion. Hal. *Ant. Rom.* 7.3 ; Cic. *Hortensius* Fr. 95; Verg. *Aen.* 8.479-485; Arist. *Protr.* 8; Val. Max. *De Crudelitate* 9.2.10; Ath. *Deipnosophistae* 12.518. For modern references, see Haynes 2000; Ientile 1983; Pettena 2002; Camporeale 2004.

³ c.f. Hecateus of Miletus, Fr. 67 apud Steph. Byz. 59; Diod. Sic. *Bibl.* 5.13, 5.40; Strabo *Geog.* 5.2.2, 5.2.6; Ath. *Deipnosophistae* 1.28.

⁴ c.f. Cristofani 1985; Gras 1985; Naso 2000; Pettena 2002; Turfa 1986.

⁵ Bouloumie 1982.

⁶ Pomey 1981.

⁷ Long, Drapp, Gantes, and Rival 2001.

⁸ Bound 1991.

represents a catastrophic event, and provides a more detailed view of commerce at a particular point in time, as opposed to terrestrial sites such as ports, which typically present a chronological continuum. By studying both types of sites together, it is possible to propose long-term economic trends illustrated by specific examples from individual sites.

This study will draw from those artifacts that survive most readily in the archaeological record: Etruscan amphorae, or two-handled clay transport jars, and bucchero pottery, a black, burnished Etruscan ware, as indicators of Etruscan commerce. Amphorae were used as shipping containers for oil, wine, fish, pitch, and many other commodities. For this reason, M. Lawall has shown that amphorae are an indirect indicator of the status of the agrarian economy.⁹

In conclusion, this thesis will re-evaluate modern scholarship on Etruscan commerce. I intend to revisit and clarify various claims regarding Etruscan piracy and seafaring and reexamine the nature of Etruscan commerce in the Western Mediterranean between the eighth and fifth centuries B.C.E. in light of the recent exploration of ten wrecked ships transporting Etruscan finished goods and raw materials.

⁹ 1995, 2.

2. THE ETRUSCANS AS PIRATES

Two distinct literary themes can be identified in Greek and Roman sources regarding Etruscan seafaring. The predominant theme is Etruscan piracy. Numerous sources describe the Etruscans' penchant for cruelty and barbarism towards the victims of their piratical endeavors. However, by evaluating other societies that have been deemed 'pirates' by ancient authors, it is possible to determine ancient biases which may have affected the way the Etruscans were perceived. An ancillary theme, which can be distinguished only vaguely from piracy, is naval warfare. The Etruscans engaged in several major naval campaigns against the Greeks, including those at Alalia (ca. 540 B.C.E.) and Cumae (ca. 474 B.C.E.). The second major theme is trade, which is the least discussed by the ancient sources. The archaeological record provides us with hard evidence with which to define a society, but it is limited; organics perish, metals corrode, and sometimes the only record we have about the trade in these objects comes from written sources.

Piracy is a common theme among many Greek and Roman authors dealing with the Etruscans, whom the ancients called Tyrrhenians. In this thesis, the terms Tyrsenoi and Tyrrhenoi identify the Etruscans as a group of people loosely connected by one language and religion. Herodotus describes a group of Lydians from Asia Minor, led by Tyrrhenus, who settled in Italy around 1200 B.C.E. and consequently changed their

name to Tyrrhenians after their leader.¹⁰ Strabo later equates the Tyrrhenoi with the people the Romans call “Etrusci” or “Tusci”.¹¹

There is an inherent difficulty in studying the Etruscans through the ancient literary sources. The Etruscans were loosely tied together by religion and language. Livy mentioned the League of Twelve Cities, a loose confederation of Etruscan city-states that Barker and Rasumssen suggest was oriented more towards religious aspects than military alliances.¹² Herodotus often referred to the various cultures of Italy as collective groups, and only once did he identify an individual Etruscan city.¹³ Strabo and Livy also refer to the city-states of Caere, Veii, Tarquinii, Volsinii, Clusium, and Arretium.¹⁴ All other ancient authors simply grouped the Etruscans together.¹⁵ In these cases it is difficult and often impossible to determine which individual city-states are being discussed. This should be kept in mind when labels, such as that of pirate, are applied to the Etruscans.

In this discussion, piracy and seafaring are assessed together because, as G. Camporeale states, “whether [Etruscan] activities constituted trade or piracy is of less concern, especially since the two were not easy to distinguish in those early centuries.”¹⁶ The first datable event in the history of Etruscan seafaring is chronicled by the fourth-century B.C.E. Greek author Ephorus, who stated that the Greeks refused to colonize Sicily before the middle of the eighth century on account of the raiding Tyrrhenian

¹⁰ Hdt. *Hist.* 1.94.

¹¹ Strabo *Geog.* 5.2.2.

¹² Livy *Ab Urbe Condita* 4.61; Barker and Rasmussen 1998, 90.

¹³ *Hist.* 1.167. Munson 2006, 58.

¹⁴ Strabo *Geog.* 5.23.1; Livy *Ab Urbe Condita* 4.34.

¹⁵ Shuey 1982, 57.

¹⁶ 2004, 80.

pirates.¹⁷ Naxos was among the earliest Greek colonies established in Sicily ca. 734 B.C.E.,¹⁸ while earlier Greek *emporía* were established off the Italian mainland at Ischia and Cumae in 775 B.C.E. and 750 B.C.E., respectively.¹⁹ Ephorus's statement thus seems to suggest that Tyrrhenian seafarers were present at the beginning of the eighth century B.C.E. in the area around western Italy.

The earliest contemporary source comes from an unknown author who wrote the *Homeric Hymn to Dionysus*. In this mythological poem, Dionysus, in the guise of a young mortal, was seized by Tyrsenian pirates, who secured him with "rude bonds" (δεσμοῖς ἀργαλέοισι). After the bonds fell off, a vine grew along the mast and yard and the god transformed himself into a lion. All the sailors leapt overboard and were changed into dolphins except for the helmsman, who had warned the sailors about the god's presence.

The date and author(s) of the hymn are debated. This poem was originally considered Homeric due to the similarity of meter, dialect, and style to Homer's *Iliad* and *Odyssey*.²⁰ However, they were most likely written by a medley of unknown authors.²¹ A. Ludwich placed the *Hymn to Dionysus* in the third or fourth century C.E. on the basis of the general similarity between the diction of this hymn and that of the *Argonautica Orphica*, a Greek epic poem written between the fourth and sixth centuries C.E.²² However T. Allen stated that the resemblance is, in fact, Homeric.²³ A.

¹⁷ Apud Strabo *Geog.* 6.2.2.

¹⁸ Haynes 2000, 52.

¹⁹ Camporeale 2004, 80.

²⁰ Rayor 2004, 1. Thucydides unquestioningly attributes the *Hymns* to Homer (3.104).

²¹ Allen 1904; Athanassakis 2004, xv; Rayor 2004, 2.

²² Ludwich 1887, 68-9.

Athanassakis, D. Rayor, and Allen suggest that the *Homeric Hymn to Dionysus* should be placed between the seventh and sixth centuries B.C.E., and probably appeared shortly after Homer and Hesiod.²⁴ If correct, the hymn provides the earliest glimpse into the Greek attitude toward piracy and the Tyrsenians. While this hymn cannot be taken as literal truth, its importance lies in the suggestion that the Tyrsenians were identified as pirates as early as the sixth century B.C.E.

Ancient sources also relate how the Etruscans attempted to deter Cnidian colonists on Lipari, a small island north of Sicily, around 580 B.C.E. The Cnidians had been instructed by the oracle at Delphi to meet the Etruscans with the fewest possible ships lest it appear an act of aggression, so they sent five triremes to engage the Etruscans, who met the ships with five of their own triremes. When these were captured by the Cnidians, the Etruscans sent in a second, and eventually a third and fourth wave, with the result that all their ships were captured by the Cnidians. After the battle, the colonists dedicated twenty images of Apollo to the temple at Delphi, one for each ship captured.²⁵

Lipari is situated in a chain of islands to the north of Sicily in the Tyrrhenian Sea, and is a strategic location for control of the Strait of Messina.²⁶ Raids against the newly-arrived Greeks in Sicily could be undertaken from Lipari with its natural harbor. M. Ientile interprets the foundation of the Cnidian colony as an anti-Etruscan effort aimed at

²³ Allen 1904.

²⁴ Allen 1904; Rayor 2004, 2; Athanassakis 2004, 85 states, "Some scholars have seen less skill and grace in this hymn, and they have tried to place it either in Alexandrian times or, worse yet, within our own era... These assumptions are erroneous."

²⁵ Diod. Sic. *Ant. Rom.* 5.9; Strabo *Geog.* 6.2.10; Pausanias *Descriptio Graecia* 10.2.3, 10.16.7.

²⁶ Pettena 2002, 32.

forcing the Tyrrhenians out of the area around Sicily.²⁷ This naval action by the Etruscans would have provided a base from which to conduct military, commercial, or piratical operations.²⁸

Around 545 B.C.E. some Greek colonists from Phocaea settled on the eastern coast of Corsica by way of Massalia, after the Persian invasion of Ionia. Following the advice of the Delphic oracle 20 years earlier, they had built a walled city at Alalia on Corsica. They lived on the island for five years, raiding and plundering neighboring cities. Herodotus informs us that around 540 B.C.E., a combined Etruscan/Carthaginian force of 120 ships attacked a Phocaean force from Corsica in the “Sardonian Sea”, the sea around Corsica, in response to the Phocaeans’ piratical activities.²⁹ The Phocaeans won the battle, but it was a Pyrrhic victory; 40 of the Phocaean ships were lost with the remaining 20 so badly damaged as to be rendered useless. The Phocaeans, realizing that they could not withstand another attack because of their great loss, left Corsica for Rhegium, and the Etruscans assumed the void left by the Phocaeans at Alalia.

The combined Etruscan/Carthaginian force was probably solidified by a treaty to which Aristotle alluded.³⁰ He stated that the Etruscans and Carthaginians had entered into agreements concerning imports and military alliances, thus creating an Etruscan/Carthaginian sphere of commercial and political influence within the Western Mediterranean. This symbiotic relationship is demonstrated archaeologically by dedicatory or votive inscriptions found at Pyrgi with Etruscan and Phoenician writing, as

²⁷ Ientile 1983, 68. It is interesting to note that in ancient Greek literature, the Etruscans were portrayed as aggressors while more recent Italian review of these events suggests the Greeks were the aggressors.

²⁸ Ientile 1983.

²⁹ Hdt. *Hist.* 1.166-7.

³⁰ Arist. *Pol.* 3.5.10-11.

well as by the name of one of Caere's three ports, Punicum, and an Etruscan "calling card" found inscribed on ivory in Etruscan at Carthage.³¹ While this agreement has no certain date, it is likely that it went into effect before the battle of Alalia. With the influx of Phocaean colonists to Alalia and the raids on Etruscan territory and commercial interests, the balance of power and any commercial security obtained by the Carthaginians and Etruscans was threatened.

While the Etruscan/Carthaginian force 'lost' the battle at Alalia in 540 B.C.E., the two cultures were able to force the Greeks out of the Tyrrhenian Sea, securing a route with which they could trade with the Greeks in southern France without fear of raiders.³² It is not known from Herodotus' account how many ships the Etruscans and Carthaginians lost, but the Phocaeans suffered losses that forced them to leave Alalia and seek safety with the Greeks in southern Italy.

After the battle, lots were drawn for possession of the Phocaean prisoners and the Etruscan town of Caere was allotted the majority. The Caeretans took these prisoners and stoned them to death near the town, a tale reiterated by later authors in accounts of Etruscan cruelty.³³ Herodotus reported that every being who passed over the place where the Phocaeans were killed was afflicted with different ailments.³⁴ Consequently, the Etruscans went to the Pythian priestess at Delphi, where they had a treasury,³⁵ and

³¹ Barker and Rasmussen 1998, 90.

³² Long et al. 2006.

³³ cf. Strabo *Geog.* 5.1.7 ; Dion. Hal. *Ant. Rom.* 7.3 ; Cic. *Hortensius* Fr. 95 ; Verg. *Aen.* 8.479-485; Arist. *Protr.* 8; Val. Max. *De Crudelitate* 9.2.10; Ath. *Deipnosophistae* 12.518.

³⁴ Hdt. *Hist.* 1.167.

³⁵ Haynes, 2000, 202. This may be an indication that the Etruscans wanted to be considered pious in Greek eyes, an idea that is echoed by Herodotus when he praises the people of Caere for abstaining from piracy (Herodotus *Hist.* 5.42).

enquired as to how they could ameliorate their offense; the priestess commanded them to perform religious rites, games, and horse races. This apparently became an annual event in honor of the Phocaeans; Herodotus noted that the people of Caere still performed that rite at the time he wrote *The Histories*. This is the first written indication of Etruscan interaction with or assimilation of Greek religion and the importance placed on the advice of the Delphic oracle.

Sometime between 494 and 476 B.C.E. the people of Rhegium built a naval base to help protect the Strait of Messina from Tyrrhenian pirates.³⁶ Around the same time, the Phocaean commander Dionysius sailed from a failed battle with the Phoenicians off the Ionian coast towards Syracuse where he set up a base to raid Etruscan and Carthaginian shipping as a pirate.³⁷ With the establishment of a naval base in the Strait, the Syracusan victory at Himera against the Carthaginians in 480 B.C.E., and the raids undertaken by Dionysius, the equilibrium and the balance of power in the Tyrrhenian basin was once again changed.³⁸

The year 474 B.C.E. marks the decline of Etruscan seafaring, as far as the ancient sources are concerned. Diodorus Siculus relates how the city of Cumae sent ambassadors to Hieron of Syracuse, begging him to send reinforcements to aid them in repelling the Etruscans,³⁹ who were planning a joint attack by land and sea to solidify their hold on the region of Campania.⁴⁰ Seeing an opportunity to gain a valuable strategic position, Hieron aided the Cumaeans by sending a number of triremes. After a

³⁶ Strabo *Geog.* 6.1.5, Diod. Sic. *Bibl.* 11.48.

³⁷ Hdt. *Hist.* 6.17.1.

³⁸ Ientile 1983, 66.

³⁹ Diodorus Siculus (11.51.1) states specifically that the Etruscans were “masters of the sea”.

⁴⁰ Keller 1974, 222.

naval battle between the Greeks and Etruscans in 474 B.C.E., many of the Etruscan ships were destroyed; the land force retreated without the support promised from the sea.

Hieron consequently built a base at Ischia, solidifying the Greeks' hold on southern Italy and effectively bringing an end to Etruscan expansion to the south.⁴¹

During the next few years the territory held by the Etruscans gradually decreased while the power and ability of Syracuse to raid Etruscan territory increased. In 453 B.C.E., to punish the Etruscans for pursuing piracy, the Syracusans sent their admiral, Phayllus, to deal with the Etruscans. After pillaging the island of Elba, a major center for the mining of iron ore, he accepted a bribe from the Etruscans and sailed back to Syracuse without accomplishing anything of merit. Exiling him for treachery, the Syracusans sent another leader, Apelles, to deal with the pirates. They gave him 60 triremes with which to ravage the Tyrrhenian coast. As part of his mission, he sailed to Corsica where he sacked the coastal towns. He then subdued Elba and returned to Syracuse with a large amount of plunder.⁴² It seems by this time that Etruscan military capabilities were diminished as there is no mention of any reprisal.

In 413 B.C.E. the Etruscans were dealt yet another blow. Overwhelmingly defeated by the Syracusan navy six decades earlier, the Etruscans were apparently in no shape to defend their own homeland from Syracusan raids. However, three Etruscan

⁴¹ Diod. Sic. *Bibl.* 11.51. The battle is also attested to archaeologically by the dedication of a bronze helmet at Olympia bearing an inscription to Zeus by Hieron of Syracuse as an Etruscan spoil of war from the battle of Cumae. See Macnamara 1973.

⁴² Diod. Sic. *Bibl.* 1.88.4-5.

pentekontors helped the Athenians against Syracuse.⁴³ During the Peloponnesian War, the Athenians planned to attack Syracuse, an ally of Sparta and Corinth, as a means to conquer Sicily and gain its resources. This attack failed and all the Athenians were killed or enslaved.

Having survived the Peloponnesian War, Syracuse launched another series of raids against the Tyrrhenians. In 384 B.C.E. Dionysius, tyrant of Syracuse and in need of money, sent a fleet of 60 triremes to raid the sanctuary of Pyrgi, the port of Caere. Pyrgi was home to a holy temple richly adorned with various dedications, including gold tablets inscribed in Etruscan and Punic scripts. The people of Caere came to the defense of the temple, but were beaten in battle. Dionysius promptly laid waste to their territory and took many prisoners and plunder back with him to Syracuse, obtaining enough money to raise an army with which to attack Carthage.⁴⁴

According to P. Stylianou, Dionysius was trying to address two problems at once.⁴⁵ On one hand, he punished and weakened the Etruscans as allies of Carthage, while at the same time he gained enough money to raise an army with which to begin a new war against Carthage. Dionysius also had a large fleet of 100 triremes with a number of horse-transports, which may explain how he was able to easily subdue the people of Caere.⁴⁶

⁴³ Thuc. *Hist.* 6.103.2. By this time, pentekontors were outdated and Casson 1995, 124 reports that only a handful of nations including Rhodes, Trapezuntum, and many Greek city-states in South Italy, still maintained these craft in their navies.

⁴⁴ Diod. Sic. *Bibl.* 15.14.3-4.

⁴⁵ Stylianou 1998, 197-9.

⁴⁶ Stylianou 1998, 198.

In 339/8 B.C.E., certain Etruscans still participated in organized piracy.

Postumius, a Tyrrhenian who had previously raided Greek commerce with twelve ships, was seized while peacefully in Syracuse, where he was put to death by Timoleon, a Corinthian who was sent to aid Syracuse in repelling the Carthaginians from Sicily.⁴⁷

In 307 B.C.E., the Etruscans sent 18 ships to aid Agathocles, the tyrant of Syracuse, in his war against the Carthaginians. This is the first reference to Etruscan efforts, either direct or indirect, against the Carthaginians. What role they played in the Syracusan invasion of Carthage is not known; Diodorus simply mentions 18 ships coming to the aid of Agathocles.⁴⁸

The history of the western Mediterranean between the eighth and fifth centuries B.C.E. was a complicated one of ever-changing loyalties. J. Turfa describes the relationship between Carthage and the Etruscan city-states perfectly: “In general...these ancient states did not react with the idealism or consistency attributed to modern politics, and they appear to have honored treaties militarily only when they were mutually profitable.”⁴⁹

Several other passages are worthy of mention pertaining to a discussion of trade and economy. Cato, in the third century B.C.E., stated that the entire Italian peninsula was at one time under Etruscan dominion.⁵⁰ Several authors mention the fertile land of Etruria, and Polybius identified the fertile northern valleys as a distinguishing feature of

⁴⁷ Diod. Sic. *Bibl.* 16.82.3.

⁴⁸ Diod. Sic. *Bibl.* 20.61.

⁴⁹ 1977, 374.

⁵⁰ Apud Servius *ad Aen.* 11.567.

Etruscan territory.⁵¹ Diodorus Siculus discussed their fertile land and excessive luxury, which, he suggested, explained how the Etruscans lost their glory.⁵² Strabo also described the fertile fields of Campania.⁵³ This partly explains why Campania, and specifically Capua and Cumae, with their fertile plains and Cumae's natural harbor, were so sought after by the Greeks.

Ancient sources also suggest that the Etruscans took full advantage of the iron deposits on Elba, which were shipped to Populonia for processing.⁵⁴ Athenaeus mentions the Etruscan manufacture of bronze lampstands.⁵⁵ Critias, in the fifth century B.C.E., commented on the trade in Etruscan gold cups and bronzework.⁵⁶ These statements are supported by the many fragments of metallic artifacts from terrestrial excavations in Italy.⁵⁷

Two further references are worthy of mention. Strabo stated that the people of Caere, who were more closely allied with the Carthaginians, refrained from piracy, and that the Greeks esteemed them for their abstinence even though they had ample opportunity to engage in this profession.⁵⁸ They built a treasury at Delphi, which Herodotus attributes to the Caeretan's appeal for advice on how to lift the plague from which they suffered.⁵⁹ The second is Pliny the Elder who briefly noted that the rostrum,

⁵¹ *Hist.* 2.17.1.

⁵² *Bibl.* 5.40.

⁵³ *Geog.* 2.2 and 4.4.

⁵⁴ Stephanus of Byzantium (59) quotes Hecataeus as saying that Aithale (Elba) means soot which comes from the iron that is produced there. Strabo (5.2.6) says that, by the time he wrote *Geography*, he could see abandoned mines, craftsmen who worked iron, and even shipsheds at Populonia.

⁵⁵ *Deipnosophistae* 15.700.

⁵⁶ apud Athenaeus 1.28b-c.

⁵⁷ cf. Bonfante 1990; Naso 2000.

⁵⁸ *Geog.* 5.2.3.

⁵⁹ *Hdt. Hist.* 1.166-7.

or ship's ram, was invented by an Etruscan, Pisaesus.⁶⁰ However, this idea is difficult to substantiate in light of the archaeological and iconographic evidence, which suggests that the ram was a Greek or Phoenician creation.⁶¹ In general, it seems that the Etruscan naval force continually grew weaker following contact with the Greeks.

⁶⁰ *HN* 7.209.

⁶¹ Van Doorninck 1982, 283 states that the first illustration of a ram comes from an engraving on an Iron Age pin (ca. 850 B.C.E.) found in Athens. Casson 1991, 76 also discusses the development of the ram, but never mentions the Etruscans.

3. ETRUSCAN AMPHORAE AND BUCCHERO POTTERY

Pottery plays a vital role in the archaeological record and supplements our understanding of past cultures. Through the study of pottery, such as transport amphorae, or two handled jars, we are able to catch a glimpse into patterns in trade across regions and through time. This section reviews the various aspects of amphora studies, including stamps, *dipinti*, stoppers, contents, and distribution, concluding with a discussion of the morphology and production of Etruscan amphorae and bucchero pottery.

Aspects of Amphora Research

Amphorae, along with other pottery, survive most often on ancient shipwrecks, while metals and organics tend to corrode and decompose, often leaving little evidence of their presence. The survivability of ceramics is due to the firing method, which essentially turns the clay into a hard, rock-like material that is resistant to most natural degradation processes.

The stance and shape of the rim, neck, handles, shoulders, and toes are all diagnostic for identifying and classifying an amphora's type. Relative dates can often be assigned to these types based on the change of an amphora's shape over time, although these differences in shape may be either/both chronological and geographical. It is important to have comparanda from multiple terrestrial and underwater sites with which to compare a given amphora style; the more datable contexts, the more accurate the date.

Amphora stamps can be useful for dating and identifying the source of an amphora (Fig. 1). Stamps often contain place names and sometimes the same iconography found on coins of a particular city. Occasionally they provide a date range in the form of a reference to a particular administrative official.⁶² These stamps could represent a guarantee of capacity to both the consumer and tax collector or a date when the wine was produced.⁶³ Occasionally these stamps are worn and illegible or do not exist (such as the case with Etruscan amphorae), in which case the shape of the amphora plays a crucial role in its identification.



Fig. 1. A Rhodian amphora stamp (Grace 1979, ill. 25).

Dipinti, or painted commercial marks, can supplement our knowledge of amphora contents. Their often abbreviated forms make their decipherment difficult, but

⁶² Grace, 1979.

⁶³ Grace 1956, 118.

dipinti may provide indication of capacity, price, customer, or shipper's names.⁶⁴

Numerical *dipinti* have been noted by A. Johnston on amphorae from various archaeological sites.⁶⁵ Five amphorae, consisting of at least three different types, including Iono-Massaliote, Corinthian B, and Samian amphorae, featured Etruscan numerals. Interestingly, these are be dated after 530 B.C.E.

An investigation of *dipinti* on amphorae from Panskoye on the Black Sea revealed that they represented buyer names.⁶⁶ They do not represent capacities or prices, since different marks were noted on the same style and size of amphora. These *dipinti*, however, corresponded to buyers' names on different ceramics from the same excavation. Since *dipinti* are painted, they are only temporary. Stolba therefore concluded that the marks from the pottery studied at this site are commercial records and are a means of labeling the products with a buyer's name.⁶⁷

Incised graffiti are often interpreted as ownership marks because they are more durable than paint and may have been applied at a different phase of production.⁶⁸ Such inscriptions are found widely on pottery, including those from the excavation of the Athenian Agora between the eighth century B.C.E. and the sixth century C.E.,⁶⁹ the excavation of Monte Testaccio, an amphora dump near Rome,⁷⁰ and on amphorae from numerous sites around the Mediterranean, including Etruscan amphorae excavated from the Bon Porte I and Grand Ribaud F shipwrecks. The examination of incised graffiti,

⁶⁴ Johnston 1978; 1979; 2006.

⁶⁵ Johnston 2004, 742-3.

⁶⁶ Stolba 2002, 237-41.

⁶⁷ *supra* n. 67.

⁶⁸ Stolba 2007, 152.

⁶⁹ Lang 1976, 1.

⁷⁰ Dressel 1878.

created post firing, on ceramics from Panskoye provided 14 examples of owners' marks.⁷¹ Different types of ceramics containing the same marks were often found in only one room, suggesting that these were incisions made by an owner to claim his/her property.

Stoppers are found occasionally in the archaeological record and were made of several materials including pine bark, clay, ceramic fragments, cork, wood, gypsum, and plaster.⁷² In Mayerson's survey of ancient texts, he cites an ancient Hebrew text that provides a number of substances approved for sealing an amphora. These include lime or gypsum, pitch, wax, mud, excrement, and clay.⁷³ Stoppers of pine bark, sealed with pitch, have been discovered in amphorae from shipwrecks and terrestrial sites including the fifth-century B.C.E. Grand Ribaud F shipwreck,⁷⁴ at Alexandria,⁷⁵ the seventh-century C.E. Yassiada shipwreck, and the ninth-century C.E. Bozburun shipwreck. It is difficult to predict the extent to which amphorae were stoppered, but it is logical to conclude that at the very least any jar transporting liquid would need to be sealed to prevent spillage or contamination.

Amphorae are direct indicators of trade and commerce. They were used to transport items such as wine, olive oil, olives, fish, fruits, nuts, beef, and pitch.⁷⁶ Occasionally amphorae are discovered with their stoppers still firmly in place over the mouth of the jar (Fig. 2). Even if the stopper of an amphora does not survive or never

⁷¹ Stolba 2002, 230-3.

⁷² Koehler 1996, 328-9; Peña 2007, 153.

⁷³ Mayerson 2001, 218.

⁷⁴ Long, et al. 2001, 30.

⁷⁵ Smith 1883, 158.

⁷⁶ Grace 1979.



Fig. 2. Etruscan amphora with pitch-coated cork stopper in situ (Long, et al. 2001, 30).

existed, the amphora's contents can still be inferred from the sieved remains of organics like olive pits or fish bones. On the Giglio wreck, amphorae were discovered to contain olives due to the large presence of olive pits.⁷⁷ On the same wreck, pitched spilled from several amphorae, coating other artifacts and allowing archaeologists to infer that pitch was one raw material carried onboard. Because amphorae were used to transport agricultural products, they are also an indirect indicator of the status of the ancient agrarian economy.⁷⁸

Modes of distribution affect the proportion of amphorae at a given site. They were central to maritime transportation, and were sometimes used as storage containers in terrestrial contexts, but may also have been discarded after the maritime portion of a journey was completed. After their initial journey, their contents may have been be

⁷⁷ Bound 1991, 23.

⁷⁸ Lawall 1995, 2.

emptied into smaller containers for resale or into storage containers, such as *dolia* (large ceramic containers) or casks.⁷⁹

After they were emptied, these amphorae were either discarded or broken down into sherds for other use.⁸⁰ This process is illustrated by the finds from Elizavetovskoe, a site in modern Russia on the Sea of Azov.⁸¹ After these amphorae had reached the port, their contents were presumably decanted into more wieldy containers, such as skins, which do not readily survive in the archaeological record, and the amphorae were disposed of in this dump. These surviving fragments provide an invaluable resource for the study of different amphora shapes, sizes, and commercial marks, as well as providing archaeologists with data about the distribution of various amphorae and the scope of commercial activity at a site.

The difficulty of finding pottery in its context of use limits the amount of information that may be gleaned from the study of amphorae. However, this is not the case with all archaeological sites. Catastrophic sites, such as shipwrecks, supplement our understanding of commerce and spheres of influence by allowing archaeologists to study which types of pottery were in circulation at a specific moment in time.

Shipwrecks can often be dated due to the study of pottery and other objects from terrestrial excavations. For example, the date of the fifth-century B.C.E. Porticello shipwreck, excavated in the early 1970s, was revised as recently as 1998 on the basis of

⁷⁹ Peña 2007, 51.

⁸⁰ Peña 2007, 52.

⁸¹ Garlan 1983, 30. Monte Testaccio, near Rome, is also a place where amphorae were discarded after their contents were decanted.

bolsals, the modern name for a type of stemless cup, and Mendeian amphorae.⁸² The date of the shipwreck was proposed by David Gill to be between 430-425 B.C.E. due to the decoration on two Attic bolsals. Gill concluded, “No secure dates are provided by the amphora cargo...”⁸³ However, Lawall countered Gill’s claim by comparing Mendeian amphorae from sealed deposits in the Athenian Agora with Mendeian amphorae found on the Porticello wreck.⁸⁴ Other amphorae from this shipwreck were also contemporaneous with Lawall’s date for the Mendeian jars in the early 4th century B.C.E. Lawall concedes that the date Gill assigned to the bolsals is correct, but that it is more reasonable to conclude that the bolsals were at least 25 years old at the time of the ship’s sinking than to re-date every terrestrial site to allow the Mendeian amphora type to fit with Gill’s earlier date for the Porticello wreck.⁸⁵

The issue exemplified by the Porticello wreck – that of determining the use life of an individual artifact or group of artifacts – is closely tied to another challenge of working with pottery. Archaeologists often find ceramics in a secondary context. Grace lists many different secondary uses for amphorae, including funerary urns and coffins for infants.⁸⁶ The excavation of an Etruscan farm at Podere Tartuchino produced several examples of amphorae that were probably purchased for their original contents and subsequently reused as storage containers.⁸⁷ Reuse extends the longevity of a piece of

⁸² cf. Lawall 1998, 16-23.

⁸³ Gill 1987, 31.

⁸⁴ Lawall 1998, 19.

⁸⁵ Lawall 1998, 19.

⁸⁶ Grace 1979.

⁸⁷ Perkins 1992, 129.

pottery's use life, which can create a challenge for archaeologists in dating amphora types.

There are many instances in which the study of kilns, clay analyses, petrographic examinations,⁸⁸ and Mössbauer-spectroscopy have defined, or even reattributed a class of amphorae whose attribution was based primarily on a high frequency at a specific site. Corinthian amphorae are composed of three types A, A', and B. The first two types were attributed to Corinth with a great degree of certainty on the basis of fabric analysis. Inclusions found within the clay of these amphorae were also found in roof tiles discovered in kilns at Corinth, as well as in terracotta sculptures and local coarseware.⁸⁹ The source of these inclusions has also been located in areas around ancient Corinth.

Type B was cautiously assigned to the Corinthian colony of Corcyra on Corfu based on their its frequency at the site.⁹⁰ But numerous examples, created from a similar type of clay, were also discovered at Corinth. Neutron-activation analysis linked the fabric of Type B to other Corinthian pottery, securing Corinth as one of the production centers of these containers. Study using Mössbauer-spectroscopy, which evaluates both chemical composition and the nature of iron in the fabric, further divided type B into two groups that could not be defined stylistically or petrographically. One type was produced at Corinth while the other was created on Corfu, with fabric that chemically matched coarsewares produced on the island. Subsequent archaeological investigation at Corcyra yielded several kilns in a potters' quarter, with a number of fragments and kiln

⁸⁸ Whitbread 1995.

⁸⁹ Koehler 1992, 265-83.

⁹⁰ Koehler 1992.

wasters from Type B.⁹¹ Locations for the production of Type B amphorae, including Magna Graecia, continue to be updated as evidence comes to light.⁹²

The excavation of a number of kilns at the North African site of Leptiminus revealed evidence for the nature of the local ceramic industry that produced pottery for both local use and for export. Excavation also revealed tanks for purification, treading basins, wasters, unfired vessels, and tools for making pottery.⁹³ The study of the amphora fragments allowed the re-evaluation of the general typology and chronology of North African Roman amphorae, yielding another, previously unknown site at which these amphorae were produced.⁹⁴ Leptiminus provided numerous unfamiliar types and variants of pottery that further defined the nature of commerce in the Roman world.

A series of surveys conducted in western Rough Cilicia on the southern coast of modern Turkey located four possible kiln sites containing various types of pottery, including many amphora wasters.⁹⁵ A study of these amphora types produced evidence for previously unknown production centers for various amphora forms, including Pamphylian amphorae, “Koan-type” amphorae, and “pinched-handle” amphorae. If these are in fact kiln sites, then the production of Pamphylian amphorae suggests that the inhabitants of Western Rough Cilicia, who were notorious for piracy, were also producing an internationally-traded amphora for the export of Cilician wine and oil.⁹⁶

⁹¹ Whitbread 1995; Preka-Alexandri 1992.

⁹² cf. Sourisseau 2000; Spagnolo 2003; Barone et al. 2003.

⁹³ Stirling, et al. 2000, 170.

⁹⁴ Stirling, et al. 2000, 199-202.

⁹⁵ Rauh and Slane 2000, 319.

⁹⁶ Rauh and Slane 2000, 327.

The History of Etruscan Amphora Studies

The first serious study of Etruscan amphorae was published in 1974 by François and Michel Py, and was undertaken because of the need to identify a type that had surfaced at numerous excavations.⁹⁷ Through a statistical and physical study of examples in southern France, they created a typology of five different styles extrapolated from both the makeup of the clay and chronological context, the latter dictated by the careful study of associated artifacts at the five sites they examined.⁹⁸ These associated artifacts included well-dated bronze figurines, fibulae, Etruscan bucchero, and Corinthian and Ionian pottery.

In 1985, Michel Gras published another typology. Since the Pys' typology was created solely from those amphorae found in southern France, several distinct forms were missing from Italian contexts. Previously, all Etruscan amphora types were simply labeled numerically (1, 2, 3, etc.), but Gras' identification begins with the letter EM, "l'Etrurie Meridionale" and included an additional letter to denote the type (EMA, EMB, etc.).⁹⁹ Gras identified five different types based on his study of additional examples found only in Italy.

The same year Gras published his typology, Michel Py revised his original typology to update and include a new form that had appeared in more recent excavations at the sites of Pech-Maho, Mourre-de-Seve, and Tamaris in France. Before Py's 1985 revision, two additional chronologies were published that took into account various

⁹⁷ Py and Py 1974, 141.

⁹⁸ These include La Liguere, La Font du Coucou, Calvisson, Maureissip, and Villevieille.

⁹⁹ Gras 1985, 328.

shapes and forms. Bouloumie re-classified the Pys' typology based on new examples discovered on the Bon Porte I shipwreck, attempting to reevaluate Etruscan amphorae in light of the ever-changing corpus of archaeological material.¹⁰⁰ Marchand also produced a typology of three groups, each with six variants, from measurements of amphora rims and a study of fabric.¹⁰¹ His typology was based on empirical data taken from newly-discovered examples and examined the change in Etruscan amphora shapes over time. However, all amphora types will be briefly discussed using both Py and Gras' descriptions, since they incorporate the previous studies and are the two most comprehensive and widely-used typologies (Appendix A).¹⁰²

Despite the limited number of known production sites, which is expanding, the amphora types reviewed here have been attributed to Etruscan production based on their frequent association with bucchero pottery in archaeological sites. Their clay contains inclusions that are also found in examples of Etruscan coarsewares, such as urns, lids, and mortars from various production sites in Etruria. Finally, small *amphorettes*, used for storage or terrestrial transport of wine and oil, are similar in form to Etruscan amphorae.¹⁰³

Py Types 1/2 and Gras' EMA amphorae typically exhibit the same shape, characterized by a flat base without a toe, and a conical body (Fig. 3). Their shoulders are round and curve into a small, short neck and small rounded rim, which has a slight

¹⁰⁰ Bouloumie 1980.

¹⁰¹ 1982.

¹⁰² Deitler 1997, 278. Py's 1985 typology incorporates types from Bouloumie (1980) and Marchand (1982). These types, like shipwrecks, are presented chronologically.

¹⁰³ Gras 1985, 325.

overhang producing a concavity underneath. The handles are attached at both ends to the shoulder of the amphora and rise in a distinct half-moon shape.



Fig. 3. Py Type 1/2 amphora.

The fabric is what distinguishes Py Type 1 from Type 2; Type 1 has a ‘greyish-yellow’ fabric, while Type 2 fabrics are ‘red’ or ‘orange’ in color.¹⁰⁴ Both types contain sandy inclusions. According to Py, these forms are found infrequently at Vaunage and Villevieille in France, while in Etruria they are found in high frequency at Vulci, and off the coasts of Corsica from 625 to 550 B.C.E.¹⁰⁵ Doganella, located south of Rome, provided partial examples of these amphorae with fabrics similar to kiln wasters

¹⁰⁴ Py 1985, 74. Fabric color from pottery discovered in underwater contexts can change markedly.

¹⁰⁵ Py and Py 1974, 157-158; Py 1985, 74.

discovered in the same area suggesting Doganella may have been one of several production locations.¹⁰⁶

Py Type 3 is subdivided into two variants: a corpulent (3A) and slender (3B) form, while Gras does not differentiate between the two, and labels them both EMC (Fig. 4). Type 3A's large form exhibits the same upturned handles, similar to half ovals, akin to Py's Types 1/2, but with a rounded, pointed toe. Type 3B is one of two slender forms in the Etruscan amphora typology. Because of its slender shape, there is a distinct neck, a feature not common to other Etruscan amphora types. Interestingly, Py states that Type 3A is almost always found with Type 3B, but the opposite is not necessarily true.¹⁰⁷ These two categories were originally subdivided by the Pys into 5 smaller groups on the basis of fabric and the presence of an exterior slip, which was fragile and often did not survive. However, because this subdivision was difficult to substantiate, it does not exist in the revised 1985 typology; these sub-forms were incorporated into 3A and 3B.

Some 3A variants are believed to imitate Phoenician amphorae from Punic cities such as Carthage in North Africa and Motya in Sicily.¹⁰⁸ While these Etruscan and Punic amphorae are alike morphologically, a Mössbauer-spectroscopy study distinguished the two forms on the basis of chemical composition and iron content.¹⁰⁹ The similarity in shapes could mean they were intended for Punic customers. Unfortunately, since these 3A variants were being compared with other 3A and Phoenician amphorae, geographical

¹⁰⁶ Perkins and Walker 1990, 42.

¹⁰⁷ Py 1985, 78.

¹⁰⁸ Gras 1985, 323.

¹⁰⁹ Deriu et al. 1986.

attributions for the different clays were unknown making a definitive regional classification difficult.



Fig. 4. Py Type 3B amphora.

Py's 1985 revision also allows for a third, more ambiguous subtype, 3C. Py states that there is no complete example of this type, making a clear illustration of its form impossible.¹¹⁰ However, it features a distinct 'brownish-red' fabric, which sets it apart from forms 3A and 3B which suggests it was produced from different clay. All three variants, 3A, 3B, and 3C, contain volcanic inclusions.

Type 3 amphorae have been found at numerous terrestrial sites throughout southern France including Montjean, Sete, Lattes, Collias, the Rhone valley, La Couronne, Tamaris, Saint-Raphael, and Italy at Vetulonia, Poggio Bracchino, and

¹¹⁰ 1985, 78.

Capua.¹¹¹ Forms 3A and 3B can be dated between 625 and 525 B.C.E., while 3C appears to replace the earlier forms between 525 and 375 B.C.E.¹¹² Pisa was one production center for Type 3A amphorae to judge from wasters discovered during a kiln excavation.¹¹³ Fragments of Types 3A and 3B have been discovered at Doganella produced from a local clay fabric.¹¹⁴ They have also been attributed to Viterbo, Caere, and Vulci on the basis of high frequency at these sites, although this is difficult to substantiate without additional archaeological investigation; an object's frequency at a site is not necessarily indicative of a production center.

The next amphora in the Py typology is Type 4, which corresponds to Gras' EMD (Fig. 5). This type is similar to Type 3A, however, it has a pronounced rim. It has a paunchy body, with upturned, half oval handles, which are round in profile, a pointy base, and 'brown' to 'brownish-red' fabric containing volcanic inclusions. The type has been discovered in France at Saint-Julien, Herault, Bergerie Hermet, Villevieille, Grau du Roi, Marseille, and in Italy at Tarquinia where examples are found in substantial numbers; Doganella is certainly one production location.¹¹⁵ Type 4 jars typically date between 530 and 375 B.C.E., and are found frequently in contexts belonging to the last third of the sixth century B.C.E.¹¹⁶

¹¹¹ Py 1985, 74-8.

¹¹² Py 1985, 74-8.

¹¹³ Bruni 1999, 258; Corretti and Vaggioli 2003, 60.

¹¹⁴ Perkins and Walker 1990, 42.

¹¹⁵ Perkins and Walker 1990, 42.

¹¹⁶ Py 1985, 78-81.



Fig. 5. Py Type 4 amphora.

A subcategory, 4A, was identified by Py as a variant of Type 4 and is characterized by an elongated lip, with the same fabric as its predecessor.¹¹⁷ This type was most frequently found in the necropoleis of Aleria and Populonia, with only a few scattered fragments found under water off the coast of France. Those contexts suggest a date range between 450 and 250 B.C.E.

Type 5 is a rare form found only at a handful of underwater sites off the coasts of France, Corsica, and Spain, and in a number of tombs at Vulci (Fig. 6).¹¹⁸ This form exhibits a rolled lip, rounded body, upturned handles, and a flat base without a toe produced from ‘yellowish-orange’ clay with sandy inclusions. It is similar in shape to

¹¹⁷ Py 1985, 81.

¹¹⁸ Py 1985, 81; Rizzo 1990, 24. In addition to the Bon Porte I shipwreck, these amphorae have been found on the Dattier shipwreck, off the Lavezzi Islands in Corsica, and near the Alicante coast in Spain (Py 1985, 81).

Types 1/2, suggesting a possible morphological evolution or imitation of earlier styles, but has a more rounded base and body with gently sloping shoulders. These amphorae were first discovered on the Bon Porte I shipwreck. Doganella is one likely production site¹¹⁹ and they are believed to date between 590 and 525 B.C.E.¹²⁰



Fig. 6. Py Type 5 amphora.

A possible Etruscan amphora Type 6 is represented by only a handful of unillustrated examples.¹²¹ This form displays a rounded base and upturned handles similar to other Etruscan amphorae, but lacks a neck or rim. Py presents a convincing

¹¹⁹ Perkins and Walker 1990, 43 on the basis of kiln wasters.

¹²⁰ Py 1985, 81; Rizzo 1990, 24.

¹²¹ Py 1985, 81; Perkins and Walker 1990, 42.

argument that these are actually a different type of archaic Punic amphora, examples of which are well-attested in late sixth-century B.C.E. levels on Sardinia.¹²²

The Pys' typology was constructed chronologically, deduced mainly from finds in southern France and with few comparanda outside France. In a 1985 exposition of the Villa Giulia Museum, Gras noted several distinct forms that had not been classified by the Pys.¹²³ It was partly with these examples in mind that Gras felt compelled to revise the original typology to include two other distinct types not attested elsewhere: EMB and EME.

EMB is an amphora type with a flat base and fat body, similar to Py Types 1/2, but slightly smaller with more angular handles (Fig. 7). They are primarily found at Vulci between 600 and 540 B.C.E.¹²⁴ Gras' EME amphora type displays a pronounced, rounded rim, which has a slight overhang producing a concavity underneath, with angular handles that fall straight down onto the shoulder (Fig. 8). As with most Etruscan amphorae, the base is pointed. Since this group is represented by only a few examples at Pyrgi and Camarina, its date has not yet been established.¹²⁵

From these typologies, we are only able to distinguish levels of regional commerce at different time periods which often lack good, datable material from production centers.¹²⁶ When we are able to distinguish between the sources of Etruscan

¹²² Py 1985, 93. These amphorae from Vulci and Gravisca have broken necks with worn edges, making a definitive classification difficult.

¹²³ Gras 1985, 328.

¹²⁴ Gras 1985, 329.

¹²⁵ Gras 1985.

¹²⁶ Gleba 2002-3 notes a number of kilns excavated in Etruria. However, none relates to production of Etruscan amphorae, but rather manufacture of Hellenistic and Roman pottery up to the twelfth century C.E.



Fig. 7. Gras EMB amphora.



Fig. 8. Gras EME amphora.

amphorae will we be able to study the level of Etruscan commerce at individual cities. For this reason, Gras urges that “more needs to be done to determine the specifics of each community, i.e. its particular response to external cultural influences.”¹²⁷ By determining the sources of production of Etruscan amphorae, it might be possible to study the nature and level of commercial interactions between individual Etruscan cities and those where their products were shipped, both inside and outside of Etruria. Both a comprehensive petrographic analysis and Mössbauer-spectroscopy study may be able to characterize the subtle differences between amphorae of the same morphological type, such as the Punic and Py 3A amphorae, and may clarify an Etruscan association with Py 6. A comparison of amphora fabrics to coarsewares of known provenience may also help distinguish between various production centers.¹²⁸

A study of this kind would not eliminate all problems regarding commerce in Etruscan amphorae such as reuse and imitation. It is also difficult to definitively determine, without further study, what goods were being exported in these containers. However, the study of Etruscan amphorae and commerce promises to be enhanced by the continued investigation and study of potential kiln and production sites to determine where these amphorae were produced and how morphological changes can be understood in terms of time and place.

¹²⁷ Gras 2000, 109.

¹²⁸ Py 1993, 343 states that the general fabric of some Etruscan coarseware is similar to that of Etruscan amphorae.

Bucchero Pottery

Bucchero pottery, which is a uniquely Etruscan ware derived from the earlier Iron Age impasto pottery produced in northern and central Italy, is sometimes found on archaeological sites under water in conjunction with Etruscan amphorae. These occurrences, therefore, warrant a brief discussion of bucchero pottery, how it was produced, where it was produced, and where it was shipped.

Impasto pottery was produced mainly between the tenth and eighth centuries B.C.E.; both bucchero and impasto were produced simultaneously, as the latter waned in popularity in the seventh century B.C.E.¹²⁹ Objects manufactured in this impasto fabric include hut-urns, bowls, cups, plates, jugs, ollae, and askoi; many were often decorated with geometric incisions. The quality of the pottery is similar to bucchero, except it is coarse and gray, unlike the black, unglazed, shiny surface and dark fabric of its successor. Impasto was produced in the same areas as bucchero, including the cities of Chiusi, Veii, and Caere.¹³⁰

Bucchero pottery's unique characteristic is the black, shiny nature of the fabric, which is black throughout (Fig. 9). However, this is not due to a glaze added after firing. Instead, its unusual appearance is derived from the reduction of iron oxides and the combustion of organic substances within the clay.¹³¹ It is unclear whether these organic materials were added by the potter, or found naturally in the clay. After the firing, bucchero was likely buffed or burnished to achieve an external luster. It was

¹²⁹ Camporeale 2000, 407.

¹³⁰ Camporeale 2000, 410. This constitutes a compelling argument for the autochthonous origin of the Etruscans (contra Herodotus).

¹³¹ Rasmussen 1979, 2.



Fig. 9. Bucchero kantharos, from tomb no. 62 at the cemetery of Osteria dell'Osa, near Rome (courtesy M.-L. Nguyen).

produced in many shapes such as table amphorae, oinochoai, olpai, kotylai, kantharoi, and skyphoi. The influence of Greek pottery shapes illustrates the close commercial relationship between the Greeks and Etruscans.

Bucchero is first seen at Cerveteri (later Roman Caere) during the late eighth and early seventh centuries B.C.E., at which time T. Rasmussen believes bucchero was at its height in terms of quality.¹³² Between 625 and 550 B.C.E., production was at its peak, with a large number of different shapes exported to all parts of the eastern and western Mediterranean. As production subsequently decreased, the number of shapes, in addition to the quality, decreased until its eventual disappearance at the beginning of the

¹³² Rasmussen 1979, 159. This type of bucchero is known as bucchero *sottile*, a thin-walled, highly-fired lightweight, highly-burnished ceramic. cf Regter 2003.

fourth century B.C.E.¹³³ Throughout these three centuries bucchero was produced at various sites in southern Etruria, such as Caere, Veii, Tarquinia, and Vulci, and in Campania at Capua and Pontecagnano.¹³⁴

In addition to being found within Etruria, bucchero is present at sites around the western Mediterranean, including Carthage and Sicily.¹³⁵ Most bucchero found within the eastern Mediterranean has been discovered at Athens, Corinth, Naxos, Miletos, and Samos;¹³⁶ it is curiously absent from sanctuaries such as Delphi, Olympia, Isthmia, and Nemea.¹³⁷ This pattern suggests that bucchero was traded most often with those cities, such as Corinth and Athens, whose wares appear in archaeological contexts in Etruria.

¹³³ This coarser bucchero is known as bucchero *pesante* and is characterized by its thick walls and heavy weight.

¹³⁴ Thuillier 1985, 160; Camporeale 2000, 414.

¹³⁵ Bucchero has been discovered in several tombs at Carthage in the third quarter of the seventh century B.C.E., further advancing the idea that the Etruscans had early commercial, and probably political, ties to this city. See Thuillier 1985.

¹³⁶ Naso 2000.

¹³⁷ Turfa 1986, 73.

4. THE EVIDENCE FROM MARITIME ARCHAEOLOGY

Many different shipwrecks survive off the coasts of southern France and western Italy. Some of these ships transported Etruscan amphorae and bucchero pottery. The importance of studying these shipwrecks lies in the ability to ascertain which products were in circulation at a specific time.

There is a tendency in historical interpretation to assume that the surviving objects in the archaeological record are an accurate reflection of what was in use in antiquity. Snodgrass uses the example of Greek figured pottery to explain the term *positivist fallacy*.¹³⁸ The value of painted ceramics with figured decoration, and thus their importance within commercial networks, is considered significant by some scholars due to the frequent presence of such pots in the excavation of tombs. Their presence in funerary contexts suggests that these were prized possessions buried with their owners. However, Gill presents one hypothesis that these pots might have been used as substitutes for items of higher value kept above ground for use by the living.¹³⁹ He concludes, rightly, that these ceramics had some value in antiquity, but that “we should be careful about equating their presence in a tomb with high value.”¹⁴⁰

Additional evidence to support the presumption of positivist fallacy comes from the study of numerous shipwrecks. Excavation has proven that painted pots accompanied and supplemented other cargo such as amphorae, metal ingots, metal containers, or stone goods, and in fact rarely comprised the main cargo of a ship.

¹³⁸ Snodgrass 1980, 126.

¹³⁹ Gill 1994, 103.

¹⁴⁰ Gill 1994, 103.

The personal effects located on any wreck, as evidenced by owner's marks, an object's low frequency on a wreck, and to some extent by the location of the object on the wreck, can be used to hypothesize about its crew's origin. However, it is not the object of this thesis to ascertain the home port of a ship or the origin of its crew, for as Gill states, "The growing number of excavated shipwrecks around the Mediterranean have not only reminded us that pots accompanied other items of trade, but also challenged earlier assumptions about identifying the nationality of some traders by the origin of the pottery they carried."¹⁴¹ While bucchero pottery is often datable from decoration, style, and fabric, it is generally the Greek painted pottery from these cargoes that provide firmer dates. Because the purpose of this thesis is to examine the scope and diversity of commercial interactions over time, each of these shipwrecks will be examined in chronological order.

Shipwrecks

Giglio

This shipwreck was excavated between 1983 and 1986 near the island of Giglio (Fig. 10) off the west coast of Italy and contained Etruscan products. It was discovered in 1961, but it was heavily looted over the next 20 years, perhaps because the discoverer was not able to attract the interest of archaeological authorities. The shipwreck was

¹⁴¹ Gill 1991, 40.

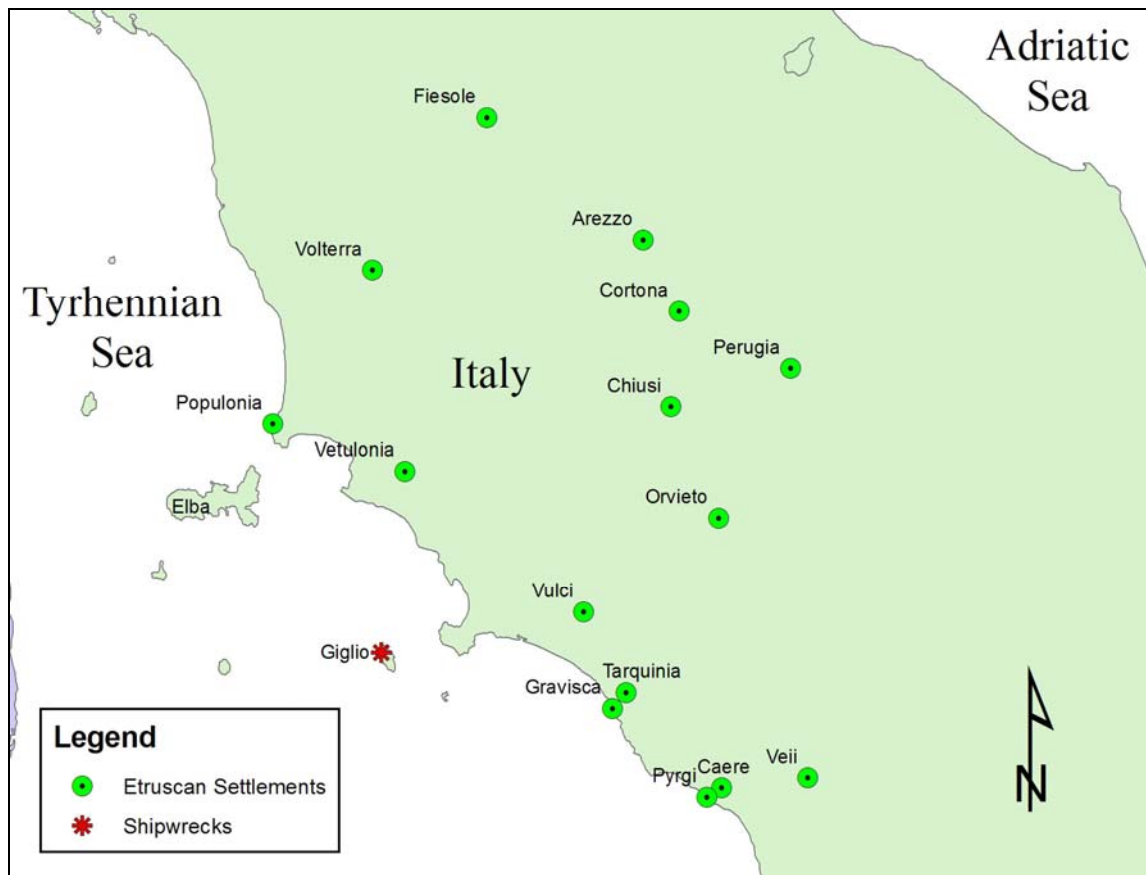


Fig. 10. The location of the Giglio shipwreck and principal Etruscan settlements.

finally excavated by Mensun Bound of Oxford University's Maritime Archaeological Research (MARE) between 1983 and 1986 at a depth of 45-50 m.¹⁴²

Four different styles of amphorae were discovered on this site. Most of these were Etruscan Py Type 1, 3A, and 3B, and almost all of the amphorae were coated with pitch on the inside.¹⁴³ While it is traditionally assumed pitch-lined amphorae transported wine, two Type 1 amphorae were found to be carrying olive pits, which suggests they

¹⁴² Bound 1995, 99.

¹⁴³ Bound 1991, 22-4.

were reused jars filled with olives.¹⁴⁴ Two more 3A or 3B amphorae contained pitch, as it had spilled from the amphorae onto the site.¹⁴⁵ Interestingly, even these amphorae were lined with pitch on the inside and may attest to a system of reuse.

At least six Samian amphorae were discovered on this site, and may have contained olive oil.¹⁴⁶ Several other fragments of East Greek and Punic amphorae were found here as well. There may also have been Corinthian amphorae on the ship, but this is not certain due to the few fragments that have survived.

The amphora cargo was complemented by a consignment of Greek fineware pottery. Many Corinthian wares were found on the site, represented by at least 28 different aryballoi, as well as trefoil mouthed oinochoai, several kraters, and skyphoi which survived only in fragments.¹⁴⁷ Of the aryballoi, 12 were from the black figured “segment” class, three were from the Warrior Group, two displayed quatrefoil designs, and one contained a single animal representation.

Laconian ceramics from Sparta were also noted, including aryballoi, mugs, and bowls.¹⁴⁸ Fragments of six Laconian aryballoi were recovered. One was an aryballos with flower petal designs on the disc, shoulder, and base, and a gorgon’s head on the handle. Two more were painted with black tops and white bodies, while another seems to have been painted completely black, although the color survives only in a vestigial

¹⁴⁴ Bound 1991, 22.

¹⁴⁵ Bound 1991, 23. A study of the pitch has not been published.

¹⁴⁶ Grace 1979, 79-80 notes the distinction Samian olive oil had in antiquity based on several ancient authors including Anakreon *Persians*, 882 and Antiphanes apud. Athenaeus. cf. Cook and Dupont 1998, 164-9.

¹⁴⁷ Bound 1991, 14-16.

¹⁴⁸ Bound 1991, 17-19.

state. Two mugs with broad red and white bands encircling the body of the mug have also been attributed to Laconian production.

Over 80 fragments of Ionian bowls, representing an unpublished original total, were also discovered on this shipwreck.¹⁴⁹ A Samian lekythos was found at the site, as well as an Etruscan aryballos painted in the Etrusco-Corinthian style¹⁵⁰ and several examples of bucchero kantharoi. A silver jug with a riveted handle, the origin of which is unknown, was found crushed under an iron concretion. The last piece of ceramic evidence comes from six East Greek lamps.

Some organic goods survived the sinking of this ship. A wooden writing tablet, couch leg, and an ornate box lid were either cargo or personal possessions of the crew.¹⁵¹ A wooden caliper with inscribed Greek letters was also discovered.¹⁵² At least one Corinthian helmet was present as evidenced by a nose piece found next to the ship's keel¹⁵³ and many bronze arrow points were discovered on the wreck. These arrow points may have been used for defense, offense, or represent a shipment of weaponry.

Fragments of the ship's keel and hull planking were also recovered.¹⁵⁴ The planking presented evidence of laced construction, where ligatures are used to bind two planks together. This is a tradition associated with Greek shipbuilding and has been noted on the Bon Porte I wreck. This shipwreck has been dated to around 580 B.C.E. on

¹⁴⁹ Bound 1991, 20-21.

¹⁵⁰ Etrusco-Corinthian pottery is Etruscan pottery decorated in a Corinthian style (Barker and Rasmussen 1998, 203).

¹⁵¹ Bound 1991, 27.

¹⁵² Bound 1995, 99-110.

¹⁵³ Another complete and ornate helmet was looted from this site in the early 1960s, although its provenience is uncertain. It is currently located in a Swiss bank vault and belongs to a German collector.

¹⁵⁴ Bound 1991, 31-4.

the basis of the Corinthian aryballoi, the Etruscan kantharoi, and the Samian amphorae discovered on site.

Cap d'Antibes

Between 1955 and 1969, G. Pruvot excavated an amphora cargo off the southern coast of France at Cap d'Antibes in approximately 15 m of water (Fig. 11). As with

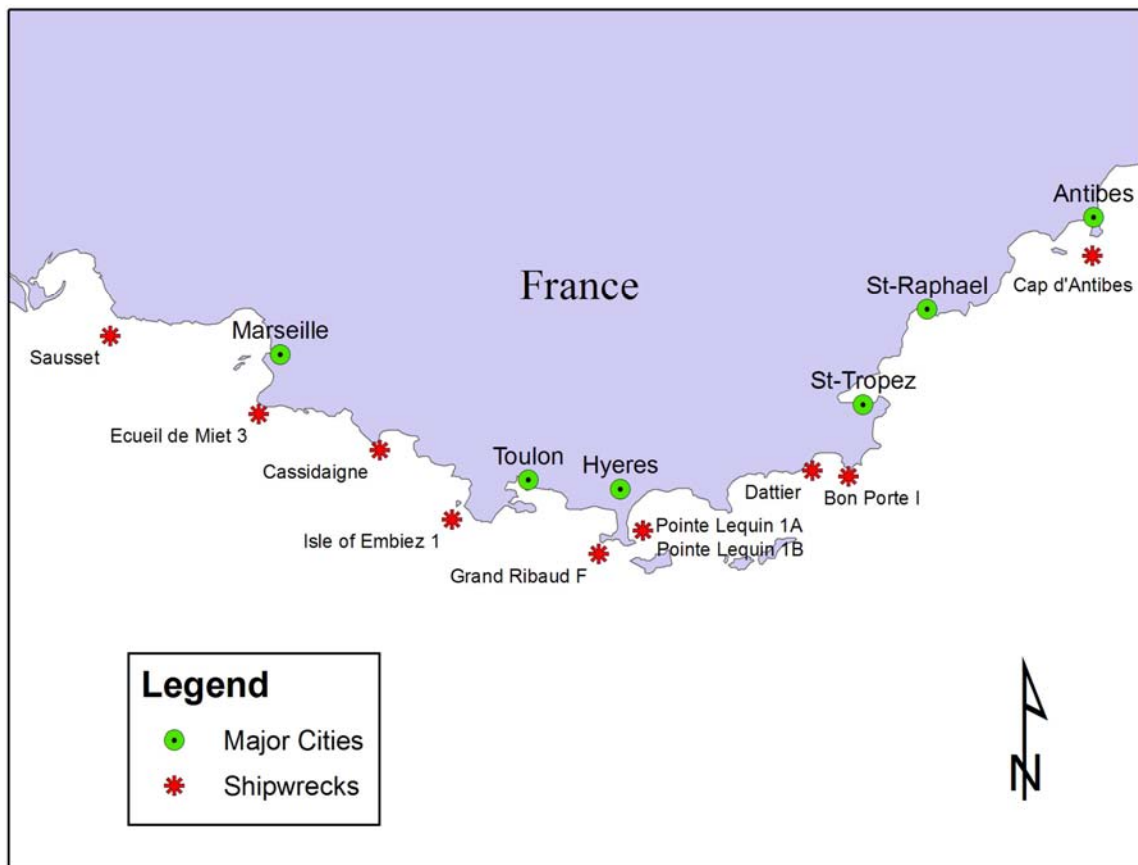


Fig. 11. Approximate locations of shipwrecks containing Etruscan cargoes off the southern coast of France.

most sites discovered at a relatively shallow depth, this shipwreck had also been pillaged by sport divers due to the fact that SCUBA was only a recent invention at the time. The shipwrecked cargo consisted of Etruscan amphorae, a few Greek amphorae, and a small number of finewares and utilitarian wares.¹⁵⁵

The main cargo consists of at least 180 Etruscan amphorae of two types. Py Type 3A constitutes only four examples, while Py Type 3B amphorae make up the remaining 176 examples (Fig. 12). The presence of stoppers and pitch lining inside these amphorae suggests that they were meant to carry wine.¹⁵⁶ The presence of pitch within these vessels is not a definite indicator of their contents, as noted in the case of the Giglio wreck. Among the amphorae from this site, several had fish bones preserved in the pitch, suggesting their employment in the storage or preparation of whole fish or fish products¹⁵⁷

Several other amphora types comprise the cargo of this ship. A handful of Corinthian Type B amphorae were present on the site.¹⁵⁸ These few amphorae can be found at numerous places in southern Italy, such as Sybaris,¹⁵⁹ which was founded by the Achaean Greeks. This reinforces the notion of continued trade links between the Etruscans and the Greeks in southern France and southern Italy.

As with most shipwrecks containing Etruscan amphorae, bucchero pottery was also a part of the Cap d'Antibes cargo. This consisted of 40 examples of kantharoi, 36

¹⁵⁵ Pruvot 1971, 37-60.

¹⁵⁶ Long and Sourisseau 2002a, 28.

¹⁵⁷ Bouloumie 1982, 10.

¹⁵⁸ cf. Koehler 1978.

¹⁵⁹ Long and Sourisseau 2002a, 29.

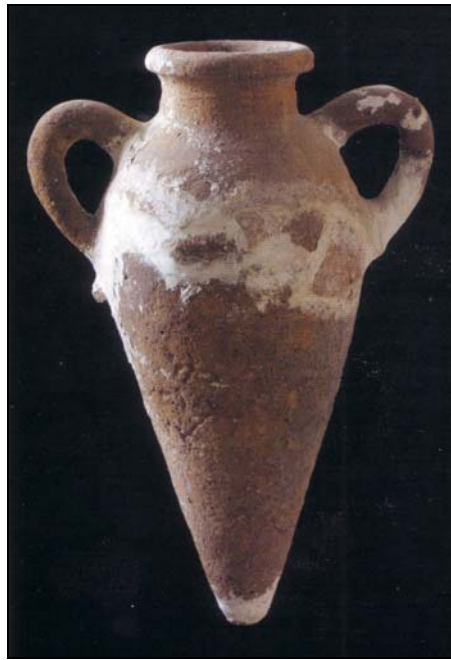


Fig. 12. Reconstructed Py 3B Amphora from the *Cap d'Antibes* shipwreck (Long, et al. 2002, 29).

which were decorated in various styles, and four were left plain; the style seems to indicate these were produced at Vulci (Fig. 13).¹⁶⁰ The rest of the bucchero consisted of 25 oinochoai.¹⁶¹ These were poorly preserved and were often identifiable only by their handles, which generally lack decoration. The shapes of these pots are comparable with others excavated at Tharros and Poggio Buco,¹⁶² and suggest that these were also produced in the area of Vulci, possibly at Poggio Buco itself.

¹⁶⁰ Bouloumie 1982, 16.

¹⁶¹ Bouloumie 1982, 21.

¹⁶² Bouloumie 1982, 25.



Fig. 13. Bucchero kantharos from the *Cap d'Antibes* shipwreck (Long, et al. 2002, 30).

Some Etrusco-Corinthian pottery was also recovered from this site. The corpus consists of six or seven cups, which are attributed to the *Maschera Umana* du *Ciclo dei Rosoni* group, with origins in the vicinity of Vulci.¹⁶³ These specific types of vessels have also been found at Tharros on Sardinia and at Carthage,¹⁶⁴ and their production gives the narrowest date for this wreck event: 560-550 B.C.E.¹⁶⁵

Several other products of Etruscan manufacture were also discovered on this site. They include three cup lids, six ollae or urns, and two basins. Several other poorly preserved pieces of pottery were discovered, their origins and specific types unknown.¹⁶⁶

A Punic style oil lamp was also discovered on the *Cap d'Antibes* shipwreck (Fig. 14). A study by G. Colonna suggests that the lamp was an Etruscan production of a

¹⁶³ Bouloumie 1982, 34.

¹⁶⁴ Bouloumie 1982.

¹⁶⁵ Long and Sourisseau 2002a, 31.

¹⁶⁶ Long and Sourisseau 2002a, 30.

Punic shape due to the similarity of the clay between the lamp, the Etruscan amphorae, and other Etruscan pottery.¹⁶⁷ This reinforces possibility is consistent with the Etruscans' tendency to imitate other pottery styles; or perhaps a Punic potter present in Etruria was responsible for this object. This lamp could also suggest the origin of the crew.



Fig. 14. Punic style oil lamp from the Cap d'Antibes shipwreck (Long, et al. 2002, 31).

Indeed there is sufficient evidence to suggest that foreign potters were resident in Etruria. The Aristonothos krater (ca. 670 B.C.E.) was discovered in a tomb at Caere in the late nineteenth century C.E.¹⁶⁸ This mixing bowl was decorated in Etruscan style, but signed in Ionian Greek by the artist Aristonothos, who presumably had a workshop

¹⁶⁷ Colonna 1985, 14.

¹⁶⁸ Izzet 2004, 193-210.

at Caere.¹⁶⁹ A naval battle or piratical attack is shown on one side and the blinding of Polyphemus on the other.

Bon Porte I

The Bon Porte I shipwreck was discovered in 1971 in 48 m of water near Saint-Tropez. While the wreck site was partially looted, it was believed to contain 30-40 amphorae, approximately 20 of which were Etruscan. All of these Py Type 5 amphorae exhibit the same fabric.¹⁷⁰ One amphora was found with a stopper intact;¹⁷¹ it is unclear, however, whether the amphora's contents were recovered. Several different graffiti were also discovered on the handles of the Etruscan amphorae. These range from an "x", to dots in various positions, to horizontal lines. The author attributes them to marks that mean 10 in an Ionian numerical system or 50 in the Etruscan system.¹⁷² It is unknown whether the graffiti reflects a system of pricing, volume, inventory, weight, or an abbreviation.¹⁷³

Between 12 and 15 Greek amphorae of various origins were also recovered on site. Eight to ten of these are of a Massaliote type of Bertucchi 1, two are Corinthian Type B, which have been attributed to workshops in Magna Graecia based on fabric, and two or three are Clazomenian (Fig. 15).¹⁷⁴ All were abundantly pitch-coated and are believed to have carried wine.

¹⁶⁹ Turfa 1986, 71.

¹⁷⁰ Joncheray 1976, 13.

¹⁷¹ Long and Sourisseau 2002b, 44.

¹⁷² Joncheray 1976, 20.

¹⁷³ See Johnston 1978.

¹⁷⁴ Long and Sourisseau 2002b, 44.



Fig. 15. Clazomenian amphora from the Bon Porte I shipwreck (Long, et al. 2002, 45).

The date of the Bon Porte I shipwreck, derived from the Massaliote and Corinthian Type B amphorae, is placed between 540 and 510 B.C.E. This wreck is similar to the Giglio wreck in that it contained a heterogeneous cargo consisting of goods from the Eastern Mediterranean, as evidenced by the Clazomenian amphorae, as well as products produced in Italy. However, unlike the wreck at Giglio, this ship carried a consignment of Massaliote amphorae, attesting to commercial interactions with the southern coast of France.

Ecueil de Miet 3

This wreck is located off the coast of southern France, near Marseille, in approximately 20 m of water. Initially the wreck seemed to be a group of isolated finds because the site lacked the coherent assemblage of artifacts typically seen in shipwreck sites.¹⁷⁵ However, due to the homogeneity of the amphorae and bucchero pottery discovered within a limited area, this site was deemed a dispersed shipwreck. This area is subject to wave and current action, as well as plundering by sport divers; very few intact amphorae and kantharoi were recovered when it was located in 1973 by the Département des recherches archéologiques subaquatiques et sous-marines (DRASSM).¹⁷⁶

This particular site included Etruscan amphorae, and poorly-preserved bucchero pottery.¹⁷⁷ The Etruscan amphorae consisted of around 100 examples of Py Types 3A and 3B, all of which were made of the same type of clay, suggesting that these amphorae were either made at two different workshops in the same area, that they were made in the same workshop by different potters, or that they were created to ship different contents or to different destinations (Fig. 16). Due to plundering of the site and the wave and current action, the number of amphorae is extrapolated from known pairs of amphora handles, but it is possible the original number was considerably greater.¹⁷⁸

¹⁷⁵ Hesnard 2002.

¹⁷⁶ *supra* n. 179..

¹⁷⁷ Liou 1975, 584.

¹⁷⁸ Hesnard 2002, 34.

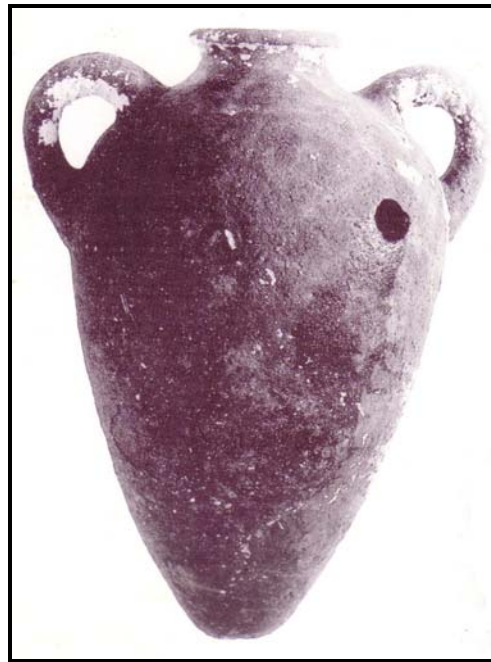


Fig. 16. Py 3A amphora from the Ecueil de Miet 3 shipwreck (Long, et al. 2002, 34).

Six different examples of bucchero kantharoi were discovered at the Ecueil de Miet 3 site. All were poorly preserved due to abrasion from the currents and sand.¹⁷⁹ The proposed date range of between 600 and 525 B.C.E. is probable due to similar amphorae and kantharoi found at the stratified excavations in the city of Marseille and the Cap d'Antibes shipwreck.¹⁸⁰

¹⁷⁹ Hesnard 2002, 36.

¹⁸⁰ Hesnard 2002, 36.

Dattier

The shipwreck at Dattier was discovered in 1973 in 37 m of water west of Cape Cavalaire. Like most shipwrecks off the southern coast of France, it was partially looted and only 15 amphorae were recorded, but not raised during the excavation. Only two of these were eventually recovered for future study; the rest were looted by sport divers during the excavation.¹⁸¹

Of the known amphorae, 15 were Bertucchi type 1, produced in the areas around Marseille. Only one Etruscan Py Type 5 amphora and one Clazomenian amphora were recovered. Both of these were pitch-lined and are thought to have carried wine. Other fragments of ceramic fine wares were recorded, but due to their lack of preservation, none was able to be identified.

This ship, like the Bon Porte I and Giglio ships, was probably small, although this is difficult to ascertain due to the incomplete nature of the site. Remains of the hull did not survive, but given the extent of the remaining cargo, it was probably less than 10 m in length. Its date is placed between 540 and 500 B.C.E. based on parallels of Massaliote amphorae from stratified land excavations at Marseille.

Pointe Lequin 1A

The Pointe Lequin 1A ship carried a much larger cargo than the preceding shipwrecks. It was extensively excavated between 1986 and 1993 off the island of Porquerolles near the southern coast of France, and the recovered cargo consists of 68

¹⁸¹ Long and Sourisseau 2002c, 48-9.

amphorae representing types from the Aegean and Etruria. This cargo was far from homogeneous; there were 20 Milesian amphorae, eight Attic “a la brosse” amphorae, eight “Ionio-Massaliote” amphorae, seven Lesbian amphorae, six Chian amphorae, five Samian amphorae, five Corinthian type B amphorae, three Corinthian type A amphorae, two Clazomenian amphorae, two Thasian amphorae, one Py Type 5 Etruscan amphora, and one unidentified amphora.¹⁸²

Numerous other finewares were discovered at this site, the majority of which were produced in East Greece (Fig. 17). These consisted of over 1200 examples of Ionian B2 cups, a large number of Attic ceramics, and a slightly smaller number of finewares from western Greece. The cargo also included a limited number of small terracotta and bronze statuettes.¹⁸³



Fig. 17. Assortment of fineware from the Pointe Lequin 1A shipwreck (Long, et al. 2002, 51).

¹⁸² Long et al. 1992, 205.

¹⁸³ Long et al. 1992, 203-25.

The date of this shipwreck was determined by the numerous Attic ceramics, which can be dated fairly precisely, in this case between 530 and 510 B.C.E. According to the few hull remains and the distribution of the artifacts, the ship was estimated to have been between 15 and 20 m long, but the cargo was calculated to weigh only 5 tons.¹⁸⁴ This seems a small burden for such a large ship. The hull of the Ma‘agan Mikhael shipwreck, discovered off the coast of Israel and dated to the fifth century B.C.E., was reconstructed to be approximately 13.8 m in length, with around 23 tons displacement.¹⁸⁵ The stone discovered in the hull of the shipwreck alone weighed almost 13 tons. The Kyrenia wreck, excavated off the northern coast of Cyprus and probably dated to the early third century B.C.E., had a reconstructed length of 13.86 m with around 25 tons burden.¹⁸⁶ While much later, the seventh-century C.E. Yassiada shipwreck was reconstructed to be around 20 m in length with a burden of 60 tons.¹⁸⁷ These data suggest that the Pointe Lequin 1A ship could have carried at least five times the amount of cargo excavated from the site. There is no reason given by the authors as to why the cargo appears so minimal, although the study of the shipwreck is ongoing. Due to its shallow depth of 4 to 8 m, this apparent deficit could be explained by looting in modern times, salvage in antiquity, the presence of a perishable cargo, the ship was smaller, or that the ship was sailing partly laden.

¹⁸⁴ Long and Sourisseau 2002d, 54.

¹⁸⁵ Winters and Kahanov 2003, 130-1.

¹⁸⁶ Steffy 1994, 55.

¹⁸⁷ Steffy 1982, 86.

Grand Ribaud F

The Grand Ribaud F shipwreck was discovered in 1999 west of the island of Grand Ribaud, and limited excavations were carried out in 2000 and 2001. Due to the depth of the shipwreck at around 50 m, remotely operated vehicles and submersibles were used to conduct the excavation. Through a series of test trenches, this shipwreck was determined to be enormous, carrying between 700 and 900 Etruscan amphorae stacked in five layers.¹⁸⁸ They are all believed to be Py Type 4, produced from a homogenous fabric, but of four different sizes.¹⁸⁹ Some of these amphorae still contain their original cork stoppers, but there is no mention of their contents. One of the amphorae was discovered to have marks painted in resin on the exterior (Fig. 18). Unlike the other shipwrecks under discussion here containing which carried only partial cargoes of Etruscan amphorae, the Grand Ribaud F ship might have carried a homogeneous cargo in that it appears to contain no evidence of other amphora types.¹⁹⁰

A small number of flat bronze plates and bowls with beaded rims were also discovered nested together (Fig. 19).¹⁹¹ These objects were discovered on or near the uppermost layer of amphorae, and were apparently loaded after the amphorae were placed on board. Their quantity suggests they were not for shipboard use, but rather supplementary cargo.

A few fineware ceramics were also identified on this shipwreck. These include the base of a black glazed kylix, a black figured askos, an unknown object with an

¹⁸⁸ Long, Gantes, and Drap 2002, 17-26.

¹⁸⁹ Long and Drap 2001, 19.

¹⁹⁰ These conclusions are provisional pending the complete excavation of the wreck.

¹⁹¹ Long et al. 2002, 26-27.



Fig. 18. Painted mark on an Etruscan amphora from the Grand Ribaud F shipwreck (Long, et al. 2001, 30).



Fig. 19. Bronze “plate” from the Grand Ribaud F shipwreck (Long, et al. 2001, 32).

orange slip and graffito “X I”, and a piece of utilitarian ceramic.¹⁹² According to Long et al., the fineware ceramics seem to be for commercial, rather than private use due to their location on the wreck in between the Etruscan amphorae.¹⁹³ However, this claim is difficult to substantiate without further excavation of the wreck. A black figured askos was discovered in the middle of the amphorae, and dates to the last quarter of the sixth century B.C.E. based on comparanda from the necropolis at Morgantina (Fig. 20).¹⁹⁴



Fig. 20. Black figure askos from the Grand Ribaud F shipwreck (Long, et al 2002, 59).

All of the utilitarian ceramics are of Etruscan origin. These include a small cup, two ollae, and two large clay mortars, which are produced in the same clay as the

¹⁹² Long et al. 2002, 29-33.

¹⁹³ 2002, 31.

¹⁹⁴ Lyons 1996.

amphorae.¹⁹⁵ The chronology of the amphorae and Greek ceramics places this shipwreck between 525 and 480 B.C.E.

Several important factors can be tentatively deduced from this large ship, pending its complete excavation and study.¹⁹⁶ It appears to contain a homogenous cargo of Etruscan amphorae and bronze finished goods, supplemented by a few pieces of Greek pottery, which were likely part of a direct shipment from one port to another. This is the only example within the western Mediterranean of such a large ship from this period, making it an important one for further study.

Pointe Lequin 1B

A later shipwreck was discovered on top of the Pointe Lequin 1A site, separated from it only by a thin layer of hull planking. The cargo consists of 20 Massaliote amphorae, and only one pitch-lined Etruscan amphorae of Py Type 3A.¹⁹⁷ The date of this shipwreck was determined by the chronological sequence of the Massaliote amphorae towards the mid fifth century B.C.E. This shipwreck's importance lies in its comparison with other shipwrecks of the same size, such as Bon Porte I and Dattier, since it seems to be a small coastal trader of the same size, if not smaller, as Pointe Lequin 1A, distributing goods from port to port.

¹⁹⁵ Long et al. (2006, July 18, <http://grandribaudf.gamsau.archi.fr/grf2001.html>); Py 1993, 343-4.

¹⁹⁶ The wreck is located in deep water, making excavation difficult, expensive, and time consuming.

¹⁹⁷ Long and Sourisseau 2002e, 63-4.

Sausset

This heavily-looted site between Cape Couronne and the island of Aragnon off the southern coast of France was discovered in 1981 in 33 m of water, and a short study was conducted to determine the extent of the wreck.¹⁹⁸ Most of the amphorae recovered were Massaliote, but one handle of an Etruscan amphora was discerned. Its type was not noted, and no fineware is known to have existed on this site. A date between 450 and 410 B.C.E. was deduced from the Massaliote amphorae, and the shipwreck was estimated to hold between 50 and 100 amphorae, making it similar to Pointe Lequin 1B, and presumably yet another example of localized, small-scale commerce.

Isle of Embiez I

This shipwreck was located in approximately 2 to 3 m of water on a reef near the Isle of Embiez off the southern coast of France, and seemed to be mixed with several other wrecks in the area of the reef.¹⁹⁹ A number of artifacts from the same period were discovered in close proximity to one another, suggesting the presence of a shipwreck. The cargo consisted of between seven and 10 Massaliote amphorae and the base of a Py Type 4 Etruscan amphora, along with the rim of a pithos. The date of this wreck has been placed in the last quarter of the fifth century B.C.E. If this was a shipwreck, it probably represented a small coastal trader, exchanging goods with villages and small settlements along the southern coast of Gaul.

¹⁹⁸ Long and Sourisseau 2002f, 65-6.

¹⁹⁹ Long and Sourisseau 2002g, 67.

Ports

The study of three Etruscan ports provides further evidence for the nature and level of foreign commercial interactions. These locations were the meeting places between maritime and terrestrial exchange. Ancient ports generally contained religious centers which provide votive offerings from mariners of different nations.

Pyrgi

Pyrgi, the port of Caere, was located on the site of a Bronze Age village. Founded at the end of the eighth century/beginning of the seventh century B.C.E, it was connected to Caere by a 13 km road.²⁰⁰ Nearby are two temples and smaller sanctuaries attesting to the presence of Greek and Punic peoples. Two temples have also been partially excavated at Pyrgi. The first, Temple B, was erected during a building program ca. 510 B.C.E. and was dedicated to Etruscan Uni/Phoenician Astarte. Excavations conducted in 1964 revealed three inscribed gold tablets and one partial bronze tablet near this temple, two in Etruscan and one in Phoenician, commemorating the dedication of a statue and/or the temple by the tyrant of Caere, Thefarie Velianas.²⁰¹ The dedication was interpreted as a thank-offering for the aid of Uni/Astarte in his rise to power, possibly with the help of the Carthaginians.

Construction in the port seems to have stagnated after the Battle of Cumae in 474 B.C.E.²⁰² However, the sanctuary's enclosure was enlarged about 470-460 B.C.E. and

²⁰⁰ Barker and Rasmussen 1998, 167; Pettena 2002, 89.

²⁰¹ Barker and Rasmussen 1998, 89-90; Bonfante 1990, 28; Haynes 2000, 176. A fourth, bronze, fragmentary plaque was also discovered.

²⁰² Haynes 2000, 178-83.

another temple was erected. This temple was constructed in a non-Greek manner with proportions similar to Vitruvius' (first-century B.C.E.) Tuscan temple.²⁰³ A third Etruscan sanctuary, south of the two temples, yielded votive deposits dating from the sixth-century B.C.E. These deposits produced Attic black-figured vases in addition to Corinthian and Ionic pottery. The port declined after it was sacked by Dionysius of Syracuse in 384 B.C.E.²⁰⁴

In the 1970s, a team of archaeologists surveyed the Etruscan ports of Pyrgi, Gravisca, and Populonia. A survey of the Etruscan and Roman port of Pyrgi proved that the sea level has risen approximately 2.5 m over the last three millennia, claiming the ancient shoreline. Discoveries at this site include the remains of the ancient *castrum* walls, rubble-mound jetties, and a submerged building. Very little was identified under water. Pottery ranging in date from the sixth century B.C.E. until Medieval times was uncovered, but details are lacking.²⁰⁵ Roof tiles, pieces of *opus spicatum*, unshaped stone anchors, lead fishing weights, and brail rings (rings attached to the sail to enable it to be furled or unfurled smoothly) all of undetermined date, were also found in the course of the survey.²⁰⁶

Gravisca

Excavations at Gravisca, the harbor of Tarquinia, have yielded information on the various cultures once present there. Evidence of this contact comes from a number

²⁰³ De arch. 4.7

²⁰⁴ Barker and Rasmussen 1998, 318; Pettena 2002, 90.

²⁰⁵ Oleson 1977, 308.

²⁰⁶ Oleson 1977, 308.

of Greek sanctuaries located around the port.²⁰⁷ The first was dedicated to Aphrodite and dates to the beginning of the sixth century B.C.E. The name of this goddess was inscribed in Etruscan on the lip of a Laconian krater.

Numerous votive offerings, dating from the middle of the sixth century onward, consist of lamps, amphorae, imported pottery, bronze and ivory statuettes, iron agricultural tools, and pieces of stone anchors.²⁰⁸ Many had inscriptions in Ionian Greek, indicating that the seafarers came from areas around Samos, Ephesus, and Miletus.²⁰⁹ The second and third quarters of the sixth century B.C.E. saw an influx of Laconian pottery, and the importation of Attic finewares during the last half of the same century.

One particular votive offering is worthy of mention. Part of a marble anchor bore a dedicatory inscription to Aiginetan Apollo by Sostratos.²¹⁰ Herodotus mentioned an extremely successful merchant of the same name.²¹¹ The initials *SO*, thought to be his monogram, have also been found on the underside of over a hundred Attic vases imported into Etruria.²¹²

Judging from the archaeological record, the battle of Alalia seems to have had little effect on trade between the Greeks and the Etruscans. Greek presence at Gravisca ceased around the time of the Battle of Cumae (474 B.C.E.), but the sanctuaries were

²⁰⁷ Haynes 2000, 172.

²⁰⁸ Camporeale 2004, 53; Haynes 2000, 172.

²⁰⁹ Barker and Rasmussen 1998, 136; Cristofani 1983, 44; Pettena 2002, 88.

²¹⁰ Barker and Rasmussen 1998, 87; Cristofani 1983, 76; Haynes 2000, 172.

²¹¹ Hdt. *Hist.* 4.152. Vases bearing the Sostratos monogram have been dated to the sixth century B.C.E.

²¹² Haynes 2000, 172.

restructured and enlarged.²¹³ After this date, dedications are made exclusively in Etruscan. At the beginning of the third century B.C.E., the Etruscan port seems to have been abandoned following Roman conquest.²¹⁴

The ancient breakwaters of Gravisca were surveyed extensively and are dated to the Roman period, due to pottery found around and amongst the rubble pile.²¹⁵ Amphora sherds were discovered in this area, most dating to the Roman Imperial period. A lone Etruscan amphora handle was discovered.²¹⁶ There is a curious deficit of Etruscan artifacts from this site. This absence of evidence seems counterintuitive when compared with the quantity of exported pottery and metal goods seen in excavated shipwrecks. However, several distinct problems were encountered at each of these sites which could account for the lack of Etruscan material. The first was the enormous amount of poseidonia grass, with their elaborate root systems that hindered any attempts to penetrate the sand.²¹⁷ As seems to be common in most underwater sites, weather, currents, and pollution often hampered the efforts of archaeologists.²¹⁸ Each site had a thick layer of sediment on top of the ancient remains, making it possible that additional artifacts, including those from Etruscan habitation, still lay buried underneath.

²¹³ Haynes 2000, 173.

²¹⁴ Cristofani 1983, 124.

²¹⁵ Shuey 1977, 102-3.

²¹⁶ Shuey 1977, 98.

²¹⁷ McCann et al. 1977, 282; Shuey 1977, 46.

²¹⁸ McCann et al. 1977, 280-2; Oleson 1977, 301.

Populonia

The ancient settlement at Populonia was located east of the island of Elba and is the only natural port on the Etruscan coast. The city flourished from the processing of metals, including copper procured from further inland. Various ancient authors also indicate that, beginning in the second half of the sixth-century B.C.E. Populonia was known to have been a large processing site of iron ore shipped from Elba after that island's supply of wood was exhausted.²¹⁹ In order to supply the iron, a fleet of ships was needed to transport the raw material to Populonia. Surely some of these ships foundered and were preserved by the gross weight of iron ore, and a survey in the channel between Elba and the mainland is a potential goal for future archaeological study.

Walls were built around the acropolis in the sixth century B.C.E. and fortifications between the port and the acropolis were erected between the fourth and third centuries B.C.E.²²⁰ Numerous Punic and Greek artifacts, including Attic red-figured pottery from the end of the fifth century B.C.E., have been discovered in various tombs.²²¹ Unlike Pyrgi and Gravisca, Populonia's success does not seem to have been hindered by the Battle of Cumae or the Syracusan raids between 453 and 384 B.C.E. Roman conquest during the third century B.C.E. changed the production system at Populonia and the port began to decline in the first century B.C.E. after it resisted Sulla during the civil war (ca. 80 B.C.E.).²²²

²¹⁹ Strabo *Geog.* 5.2.6; Plin. *HN* 3.8; Diod. Sic. *Bibl.* 5.13; Livy *History of Rome* 28.45.

²²⁰ Haynes 2000, 264.

²²¹ Cristofani 1983, 127; Haynes 2000, 264.

²²² Cristofani 1983, 127.

The main result of the survey of Populonia was the determination that a rise in sea level had claimed ancient beaches, buildings, and funerary complexes. The surveyors at Populonia determined that the ancient shoreline is estimated to be up to 120 m further out to sea than the modern shoreline.²²³ In this zone, a cinerary urn, ambiguous pieces of wood (possibly from a ship), and a number of amphora sherds from the fourth century B.C.E. through the third century C.E. were observed. A quantitative study showed that the collection of surveyed pottery corresponded with what was previously known of the city's rise in prosperity from the fourth century B.C.E. until its decline beginning in the second century B.C.E. There was a curious lack of Etruscan pottery from the eighth through the fifth centuries B.C.E. A quantity of iron ore and slag was also discovered, both on shore and under water.

Tomb Paintings

There is one other class of archaeological material that can be consulted to fill in the gaps in our knowledge of Etruscan maritime society. Tomb paintings and artistic depictions are an important resource for archaeologists, since they provide a contemporaneous visual interpretation of the actual ships. However, some problems arise in attempting to translate them into literal truth. La Tomba della Nave at Tarquinia is a perfect example of the interpretive problems associated with such material (Fig. 21).

²²³ McCann et al. 1977, 286.



Fig. 21. Painting of the ship from La Tomba della Nave on panel A (Moretti 1961).

In this tomb, dated to the fifth century B.C.E, are displayed three scenes of feasting, dancing, and music.²²⁴ If these paintings are read from left to right as the room is entered, panel A is a depiction of a ship with its bow facing towards land on the right.²²⁵ Next is a scene with several different pottery types, including a krater, aryballoi, an olla, decorated table amphorae, and two kylikes which might have been used in a banquet (Fig. 22). The geometric decorations on the pottery suggest that these are Greek products and were perhaps displayed as guests arrived at the banquet; such

²²⁴ Moretti 1961, 36.

²²⁵ This is the only depiction of a ship in an Etruscan tomb, possibly suggesting that there were few Etruscan merchants.



Fig. 22. The banquet vessels from La Tomba della Nave on panel A (Moretti 1961).

vessels were used to attract attention at social events.²²⁶ The ship and pottery may also represent the commercial connections and mercantile wealth of the tomb's owner. On panel B is an illustration of a banquet, followed by a scene with dancing on panel C (Fig. 23 and Fig. 24). Taken together these scenes probably represent a series of chronological events; the unloading of a cargo, the dissemination of the contents from the cargo into the banquet, and the use of these vessels in an elaborate dinner.²²⁷ Similar programmatic scenes can be found in other tomb paintings at Tarquinia, including the Tomb of the Leopards (ca. 475 B.C.E.) and the Tomb of the Triclinium (ca. 470 B.C.E.), both of which illustrate dinner scenes, performing musicians, and dancing. The Tomb of the Blue Demons (420-400 B.C.E) shows a funerary banquet, including a similar depiction of imported vessels sitting on a table, followed by the deceased departing on a chariot to the underworld, and a boat steered by Charon, ferrying people to the gates of Hades.

²²⁶ Peña 2007, 43.

²²⁷ Moretti 1961; Spivey 1991.

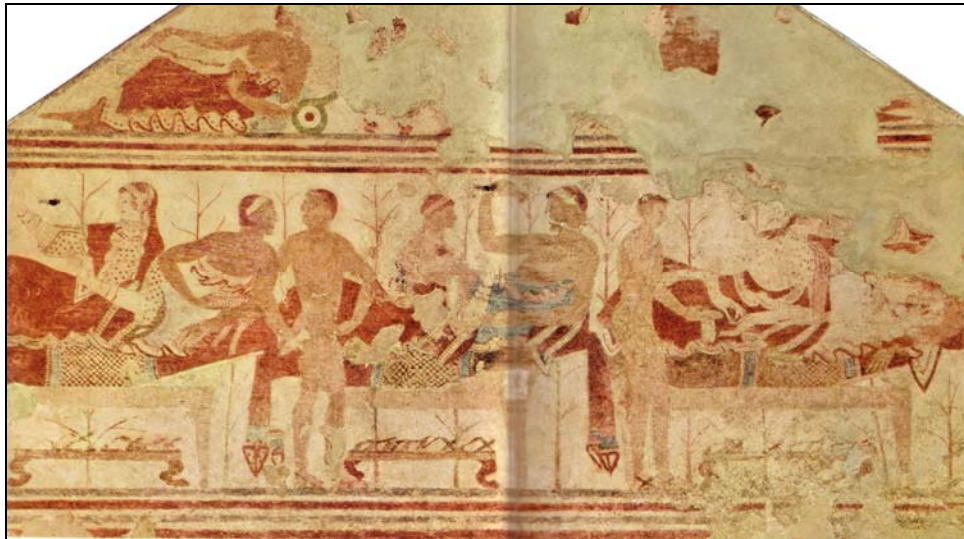


Fig. 23. The banquet on panel B (Moretti 1961).



Fig. 24. Dancing on panel C (Moretti 1961).

5. CONCLUSIONS

It is the goal of this thesis to revisit and clarify various claims regarding Etruscan piracy and seafaring and reexamine the nature of Etruscan commerce between the eighth and fifth centuries B.C.E. given the recent excavations, both partial and complete, of ten wrecked ships transporting Etruscan finished goods and raw materials. The earliest surviving mention of Etruscan seafarers is as pirates. This theme was continually revisited in ancient literature, from Herodotus' account in the fifth century B.C.E. to the tenth-century C.E. *Souda*. Why were these people considered to be pirates? In an effort to address this question fairly, one must consider the attitudes of our historical sources to the subject of other foreign cultures.

All the written sources mentioning the Etruscans come from Greek and Roman authors, who have been regarded as “careless and, in some cases, hostile witnesses.”²²⁸ Some, such as Cato, Athenaeus, Polybius, Strabo, and Diodorus Siculus, list Etruscan accomplishments and their contributions to other Mediterranean cultures, while other sources view the Etruscans as barbarians and pirates. As Wellard states so eloquently, “Such command of the sea by one nation was—from the beginning of recorded history up to the end of the eighteenth century—invariably called piracy by rival maritime powers.”²²⁹ P. de Souza also suggests that the presence of Tyrrhenian piracy, even in the fourth and third centuries B.C.E., may be an expression of the greater intensity of seafaring in the region.²³⁰

²²⁸ Cameron 1909, 3.

²²⁹ 1973, 109.

²³⁰ 1999, 53.

What did piracy mean to the Greeks and Romans? Herodotus, in his account of Greek civilization, provides us with several clues. Never does he refer to any Greeks as pirates, regardless of their seemingly piratical activities, such as the actions of the Phocaeans; and the Caeretans are praised for their stance against piracy, suggesting that, in Herodotus' eyes, not all Etruscans were pirates. The Phocaean colonists, who settled at Alalia and raided the Etruscan coast, are never referred to as pirates; rather, Dionysus of Phocaea, who is portrayed as a pirate, sacked Etruscan and Carthaginian shipping in the name of revenge.²³¹ However, even he was well treated by Greek authors perhaps because he avoided attacking Greek ships.

In other Greek texts, the Samians, who maintained a powerful fleet of pentekontors, exacted tribute from the Siphnians by sacking the island, a form of piracy, although they are never referred to as such.²³² The Illyrians were known for their acts of piracy against the Romans, but a close look at the battles in which they were involved indicates that they acted in organized, large scale offensives aimed at defending and expanding their territory instead of the small random engagements typical of piratical tactics.²³³ While the Cilicians were termed 'pirates' by the Romans, de Souza suggests that their attacks on the Romans were economic and political responses to Roman occupation of the area.²³⁴ Along these lines, Horden and Purcell state that "piracy can be

²³¹ Hdt. *Hist.* 6.17. Piracy, under the guise of reprisals, was a problem for many cities throughout history. Athens in the fourth century B.C.E. suffered reprisals at the hands of several Greek poleis, including Boiotia, Aigina, and Sparta for money owed to Sparta (de Souza 1999, 34).

²³² Hdt. *Hist.* 3.58.

²³³ Polybius *Hist.* 2.2-4, 2.10, 4.16.6.

²³⁴ de Souza 1997, 479.

seen as the continuation of *cabotage*,²³⁵ contributing to local commerce. Piracy and trade are forms of economic activity that move both goods and people; ships and manpower required by pirates can be interpreted as an investment and the sale of plunder a profitable return.²³⁶

J.-P. Morel questioned the role of Etruscans as pirates and the presence of organized exchange between Etruria and the rest of the Mediterranean.²³⁷ In response, M. Cristofani used both traditional literary texts and archaeological evidence including representations of ships, to argue that there were two major phases in the Etruscan thalassocracy.²³⁸ The first was one of commercial control by the aristocracy and/or pirates. This commercial control was transformed gradually beginning with the foundation of the Greek colony on Lipari in 580 B.C.E., and culminated with the Battle of Alalia in 540 B.C.E. Afterwards, the Etruscan's maritime role was relegated to that of an aggressor under the control of the city.

According to Gras, the beginning of Etruscan commercial interactions with the Greeks and Carthaginians is between aristocratic families.²³⁹ This initial exchange has four aspects: the exchange of gifts, connections of hospitality, matrimonial alliances, and offerings in sanctuaries. As these alliances between aristocratic families strengthen, they turn into commercial relationships between individual cities. This is more of a natural internal progression compared to Cristofani's change in Etruscan thalassocracy as a consequence of external influences.

²³⁵ 2000, 387-8.

²³⁶ de Souza 1999, 56.

²³⁷ Morel 1983, 255.

²³⁸ Cristofani 1984, 8-10.

²³⁹ Gras 1985, 710-4.

In the West, the Greeks first settled at Pithekoussai/mainland Italy, expanding to Sicily, Corsica, the southern coast of France, and even into modern day Spain.²⁴⁰

Interestingly, the one place not settled by the Greeks in the west-central Mediterranean is Etruria. Several factors must have contributed to the success of the Etruscans in protecting their homeland. First, most Etruscan cities were strategically placed and well defended. Raids against the Etruscans were typically carried out on various ports and not the inland cities. Second, several Etruscan cities are known to have contributed warships to various causes.²⁴¹ We know that the Etruscans fought in several battles against the Greeks with a fleet, or individual ships, so it follows that they had some limited naval power.²⁴²

The Etruscans eventually met with the Greeks at least as early as the eighth century B.C.E., when they were beginning to colonize Sicily and southern Italy. The Strait of Messina, the shortest coastal route from the western Mediterranean to the Ionian and Aegean Seas, is a strategic point. With the Greeks colonizing Lipari, Syracuse, and Cumae, the route into the eastern Mediterranean was threatened, precipitating a territorial clash between the Etruscans and the Greeks. However, Greek manufactured goods continue to be traded during these periods of hostility.

During the sixth century B.C.E., the Etruscans were attacked by Phocaean colonists from Alalia. This forced a military action and the joint Carthaginian-Etruscan forces, including the city of Caere, attacked Alalia, gaining valuable territory with which

²⁴⁰ Cf. Boardman 1999.

²⁴¹ Thuc. *History of the Peloponnesian War* 6.104; Diod. Sic. *Bibl.* 20.61.

²⁴² Hdt. *Hist.* 1.166-7; Pind. *Pyth.* 1.71-5; Thuc. *History of the Peloponnesian War* 6.88, 6.104, 7.53, 7.56.

to exact a tax and increase their own wealth in addition to securing a protected sea route to the communities of southern France. Taking into account that the Etruscan nation was not, in fact, a coherent body but a group of cities held together loosely by language and religion,²⁴³ the disjointed effort of several Etruscan cities to send out naval ships could easily have been mistaken for piracy as opposed to an act of defense.

There is also little differentiation between war and piracy in texts from Homeric times to the Hellenistic period.²⁴⁴ The term pirate was often used as a negative label for political opponents. In times of war, it was used to illegitimize the enemy. This is not to say that the Etruscans never participated in acts of piracy, but I believe this hostile type of interaction to be the exception instead of the norm.

The Etruscans seem not to have been despised by all Greeks; the people of Caere ask advice from the Delphic oracle about how to amend their offense of slaughtering the Phocaean Greeks. This illustrates that not all Etruscan/Greek relations were negative and that individual Etruscan cities might have sought to gain favor in the eyes of the Greeks by actively emulating or participating in Greek cultural practices.

As Greek power grew in southern Italy in the fifth century B.C.E. and a naval base was established at the Strait of Messina, this route became less and less accessible to the Etruscans, and there seemed to be an even greater need to force out the Greeks. In consequence, the Etruscans, in one last effort, attacked the Cumaeans and lost, essentially ending Etruscan thalassocracy in the western Mediterranean. The

²⁴³ Barker and Rasmussen 1998, 90-1.

²⁴⁴ de Souza 1999, 18 and 241. He states that piracy and warfare are so closely related in both aim and method that they are virtually indistinguishable.

archaeological evidence suggests that these events did not end commercial ties with the Greeks, especially those in what is now southern France.²⁴⁵

While it is difficult, if not impossible, to detect piracy in the material record, the archaeological evidence provides some indication for the nature and extent of Etruscan foreign relationships. Some objects, such as the ivory “calling card” discovered at Carthage and inscribed in Etruscan with the name of a Carthaginian merchant, the numerous Etruscan bucchero ceramics found at Carthage, the name of Punicum as a port of Caere, and the commercial treaty eluded to by Aristotle, suggest that an amicable commercial relationship existed between the Carthaginians and at least some Etruscans.²⁴⁶

Even after the Battle of Alalia in 540 B.C.E., Greek goods, such as Corinthian and Ionic pottery and Attic black-figured vases, continue to be imported to the various ports of Etruria. The people of Pyrgi constructed a Greek-style temple, and Greek sanctuaries continued to be established at Gravisca. However, we see a decline in commerce between the Greeks and the Etruscans shortly after the Battle of Cumae (474 B.C.E.) that appears to mirror the subsequent hostilities between these two cultures. Despite this decline, Populonia continued to grow, most likely because of the demand for its processed metals.

Each of the shipwrecks discussed in the previous section illustrates what products were being exchanged on a given day. Levels of commerce are sometimes conveniently

²⁴⁵ See McDonald (1982) for the continued import of Attic pottery to Corinth during the Peloponnesian War despite hostilities between the two cities.

²⁴⁶ For a complete list of Punic objects found at Etruscan sites and Etruscan material at Punic sites, see Turfa (1977) and von Hase (2004).

separated into two categories: high and low. High commerce is a form of directed exchange, or the conveyance of a relatively homogenous cargo from one distribution center directly to another. High commerce is highly profitable, but often risky to the investor because of the large amount of capital needed to purchase and transport products in a single ship over a long distance. Until recently, high commerce has been studied in isolation.²⁴⁷ This arises partially from the bias of ancient authors in praising those who had succeeded in this type of commerce, such as the trade interactions of the successful Sostratos of Aegina.²⁴⁸ However, this picture has changed somewhat with the advent of nautical archaeology.

Low commerce is a form of *cabotage*, in which a ship travels from port to port or village to village loading and unloading goods. Cargoes representing low commerce typically have a very heterogeneous consignment comprised of diverse items obtained at different ports of call. It is characterized by Horden and Purcell as “the basic modality for all movements of goods and peoples in the Mediterranean before the age of steam.”²⁴⁹ This is illustrated by a rare tablet found at Elephantine in Egypt showing the customs dues on cargoes from 475 B.C.E. These ships were of varied origins, quite small, and delivered diverse, heterogeneous cargoes, but all exported a homogenous cargo of mineral soda, showing that a given vessel could engage in both kinds of trade.²⁵⁰

²⁴⁷ Horden and Purcell 2000, 143-52.

²⁴⁸ Hdt. *Hist.* 4.152

²⁴⁹ 2000, 365.

²⁵⁰ Horden and Purcell 2000, 149. See also Yardeni 1994.

Until relatively recently, all the shipwrecks containing Etruscan goods could be classified as participating in low commerce based on the artifacts recorded at each site, and it seemed logical to believe that high commerce was extremely limited or did not exist in the western Mediterranean during the Archaic Period. In fact, Johnston states, “In a broader perspective, the Giglio and Porticello wrecks point to mixed cargoes being the rule in the archaic and classical periods, although we do have literary references, mostly of late in the period, to single cargoes.”²⁵¹ Typical examples of this type of commerce are the smaller shipwrecks excavated at Giglio, Bon Porte I, and Cap d’Antibes, which contain diverse cargoes, including products from Greek cities in the East. Pointe Lequin 1A, the only cargo excavated in its entirety,²⁵² contained a large quantity of Ionian cups, but also included a number of diverse amphora types in addition to other Attic ceramics and finewares from western Greece.

However, the modern understanding of Etruscan commerce, as illustrated by Johnson, changed with the discovery and partial excavation of the Grand Ribaud F shipwreck. This cargo of around 1000 amphorae suggests that high commerce did exist in the western Mediterranean during the late sixth century B.C.E.; low commerce was not the only way in which goods were transported and distributed between ports. This consignment, although it has not been excavated or studied in its entirety, appears to consist almost entirely of a specific type of Etruscan amphora and may represent a directed trade effort toward the southern coast of France. Regardless of the origin of this

²⁵¹ Johnston 1985, 251. Hdt. *Hist.* 7.147 discusses grain ships. Bulk cargoes are also evidenced in the Demosthenic corpus.

²⁵² Gras 2000.

ship's crew, the finds suggest that the Etruscans had the resources, social structure, and security after the Battle of Alalia to produce a large number of one product, shipped in amphorae, for export.²⁵³

The Etruscan amphorae found in each of these ten shipwrecks vary in both type and number. The Grand Ribaud F shipwreck contained at least four different sizes of Py Type 4 amphorae, the Giglio shipwreck included a minimum of three different types of Etruscan amphorae while most of the other shipwrecks carried a small number of only one or two different types of Etruscan amphora. The Grand Ribaud F shipwreck lends the greatest credence to the theory that these amphorae were manufactured at localized production centers. If this ship participated in directed trade and was traveling directly from one large port to another, then it stands to reason that the Etruscan amphorae from this wreck were loaded in one place. The variations in the size of the amphorae could be explained by production in different workshops or by different potters within the same workshop, by production at different times, or their manufacture for specific farms or agricultural centers.

While it is currently difficult, if not impossible, to determine where these amphorae were produced and loaded, the shipwreck evidence supports the chronological continuum of existing Etruscan amphora typologies. The date of each of these shipwrecks was determined by the study of the associated ceramic materials. The date ranges given by both Py and Gras sit firmly among the dates of the Greek goods found

²⁵³ Long et al. 2006, 455-95; Peltier-Buda (2006, May 18).

on each of these shipwrecks; ideally integration of nautical material could refine existing typologies.

A few conclusions can be drawn about the nature of trade in the western Mediterranean during the Archaic Period. An evaluation of both the terrestrial and nautical evidence suggests that the height of Etruscan commerce comes immediately before the Battle of Alalia in 540 B.C.E., agreeing with the ancient written evidence that Etruscan influence seems to decline slowly after this time. However, most of the shipwrecks presented in this thesis seem to contain only a few Etruscan goods, with the Grand Ribaud F shipwreck as an exception. This is difficult to state with certainty though, as most of these wrecks have suffered from looting.

The archaeological data from the southern coast of France, however, show a slight decline in the importation of Etruscan pottery after 540 B.C.E., but these numbers do not decrease significantly until the mid-fifth century B.C.E.²⁵⁴ It appears that the height of Etruscan commercial interactions occurred right before the Battle of Alalia, and then slowly dwindled until about the mid-fifth century B.C.E. after which few Etruscan goods have been discovered.

Etruscan amphorae and their contents were certainly not the only products coming from the western coast of Italy. Bucchero pottery is often found on both terrestrial and underwater excavations alongside amphorae, including the Cap d'Antibes, Ecueil de Miet 3, and Grand Ribaud F shipwrecks.²⁵⁵ In each of the shipwrecks where bucchero pottery was discovered, Etruscan amphorae outnumbered the amount of

²⁵⁴ Py 1985, 81-88; Gantes 1992.

²⁵⁵ These include Cap d'Antibes, Ecueil de Miet 3, and Grand Ribaud F.

bucchero. It seems that the contents of these amphorae were the primary cargo and that the bucchero pottery served as a secondary cargo in addition to the possible presence of perishable items such as timber, textiles, and metals. Spivey suggests that the market and its demands, at least in finewares, was read by merchants.²⁵⁶

We also know from the Grand Ribaud F shipwreck that finished metallic goods were also being exported northward. The presence of these metallic bowls, coupled with distribution of bucchero pottery within some shipwrecks, contributes evidence for the value of some finewares.²⁵⁷ The importance of the depiction of Greek pottery in La Tomba della Nave at Tarquinia and the numerous repairs with rivets to various vases also suggest that these finewares held some economic value in antiquity.²⁵⁸ This is not to say that they were priceless *objets d'art*, but they were certainly not 'saleable ballast'.

A small proportion of Etruscan items were also carried east, although apparently not to the same degree in which Greek goods were exported to Etruria. Because Etruscan exports are rarely, if ever, mentioned in the literary evidence, the archaeological record provides the best evidence for this activity. Bucchero is found in a limited number of places in the eastern Mediterranean and Etruscan amphorae in only a few isolated contexts.²⁵⁹ At least one Etruscan amphora has been reported at Clazomenae.²⁶⁰ A Villanovan or Etruscan belt was found in Eretria.²⁶¹ Several bronze helmets, which represent dedicatory offerings, were discovered at Olympia and

²⁵⁶ Spivey 1991, 139-142.

²⁵⁷ contra Gill 1994.

²⁵⁸ Spivey 1991.

²⁵⁹ Naso 2000.

²⁶⁰ Lawall, personal communication, July 7, 2006.

²⁶¹ Close-Brooks 1967.

Delphi.²⁶² A bronze tripod from Vulci was discovered on the Acropolis in Athens.²⁶³ In general then, most of the non-ceramic goods discovered in the eastern Mediterranean appear to be associated with votive or commemorative dedications.

In addition to finished metal goods, bucchero pottery, and amphorae containing wine, olives, and pitch, we know that ancient Etruria had a plethora of fertile land, and presumably could produce enough grain for local consumption, and possibly surplus for trade.²⁶⁴ Iron ore was also imported from the island of Elba and processed near Populonia, and the *Colline Metallifere* provided the raw materials needed to produce a variety of bronze objects. Livy states that various Etruscan cities contributed ship-building products, such as timber, ropes, and oars to Scipio Africanus in 205 B.C.E., though few of these goods will have survived in the archaeological record.²⁶⁵

Traded goods in the Archaic Mediterranean seem generally to have moved from east to west. We know from the excavation of many tombs in Etruria that there appeared to be a healthy import of Greek goods between the seventh and fifth centuries B.C.E. Two main spheres of this material are evident: pottery from Corinth during the late seventh to the middle of the sixth centuries B.C.E., and pottery from Athens between the middle of the sixth and the first quarter of the fifth centuries B.C.E.²⁶⁶ Agricultural products, contained in amphorae from Etruria, were then exported to the southern coast of France, with isolated items going to the eastern Aegean and Black Sea regions.²⁶⁷

²⁶² Kilian 1977.

²⁶³ Naso 2000. cf. Chase 1908 for three additional examples of Etruscan bronze tripods.

²⁶⁴ Diod. Sic. *Bibl.* 5.40; Strabo *Geog.* 5.2.2

²⁶⁵ Livy *History of Rome* 27.45.

²⁶⁶ Barker and Rasmussen 1998, 213.

²⁶⁷ Naso 2000; Camporeale 2004.

Low commerce was the mainstay of exchange in the western Mediterranean, but it occurred in conjunction with voyages that can be characterized as examples of high commerce. While the height of Etruscan commerce was before the Battle of Alalia (540 B.C.E.), traders still continued to thrive until the Battle of Cumae (474 B.C.E.). The evidence presented here suggests that the Etruscans are not to be downplayed as pirates, but rather contributed to the overall Mediterranean economy and were a vital link in what makes the Archaic Mediterranean a rich and complex social, cultural, and commercial network.

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APPENDIX A

Etruscan amphora forms, their dates, and principal discovery locations.

Amphora Type	Date	Primary site locations
Py 1/2, EMA	625-550 B.C.E.	These amphorae have been found at Vaunage, Villevieille, Cape Lardier, and Saint-Tropez
Py 3A and 3B, EMC	625-525 B.C.E.	Agde, Saint-Raphael, La Couronne, Collias, Sete, Tamaris, the Rhone valley, Lattes, Montjean, Vulci, Poggio Bracchino, and Capua
Py 3C	525-375 B.C.E.	Same as above
Py 4, EMD	530-375 B.C.E.	Saint-Julien, Herault, Bergerie Hermet, Villevieille, Grau du Roi, Marseille, and Tarquinia
Py 4A	450-250 B.C.E.	Aleria and Populonia
Py 5	525 B.C.E.	Off the coasts of France, Corsica, and Spain
Py 6	500 B.C.E.	Unknown
EMB	600-540 B.C.E.	Vulci
EME	Unknown	Pyrgi and Camarina

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Work History

2007-Present, Underwater Archaeologist, Computer Modeler, and GIS Specialist,
 Tidewater Atlantic Research, Inc.

- Sonar, magnetometer, sub-bottom profiler, fathometer operator.
- Use of software packages such as Hypack, AutoCAD, ArcGIS, and Rhinoceros to develop site plans and survey strategies.
- Creation of GIS to assess site sensitivity.
- Use of the Vulcan Spatial Measurement System in conjunction with Rhinoceros to generate three dimensional site plans.

2007, Archaeological Dive Technician, State of North Carolina

- Excavation of site 0003BUI.

2005-2006, Archaeologist, Roman Column Wreck, Kizilburun, Turkey

- Participated in archaeological diving, supervision of the upslope area, digital artifact photography, cataloguing, field conservation, and data entry.

2005, Archaeologist, Cairo Dashur Boats Project, Cairo, Egypt

- Measured and drew the hull timbers from boats 4925 and 4926 in the Egyptian Museum.

2004, Archaeologist, Episkopi Bay Survey, Episkopi, Cyprus

- Survey for the port of Kurion and the surrounding area.
- Duties included diving, artifact photography, drawing, and conservation.